



STIC Search Report

Biotech-Chem Library

STIC Database Tracking Number: 197/76

TO: SUDHAKAR KATAKAM

Location: rem/5C25/5C18

Art Unit: 1621

Thursday, August 10, 2006

Case Serial Number: 10/734946

From: Mary Jane Ruhl

Location: Biotech-Chem Library

Remsen 1-A-62

Phone: 571-272-2524

maryjane.ruhl@uspto.gov

Search Notes

Examiner KATAKAM,

Here are the results for your recent search request.

Please feel free to contact me if you have any questions about these results.

Thank you for using STIC services. We appreciate the opportunity to serve you.

Sincerely,

Mary Jane Ruhl
Technical Information Specialist
STIC
Remsen 1-A-61
Ext. 22524

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STIC SEARCH RESULTS FEEDBACK FORM

Biotech-Chem Library

Questions about the scope or the results of the search? Contact *the searcher or contact:*

Mary Hale, Information Branch Supervisor
571-272-2507 Remsen E01 D86

Voluntary Results Feedback Form

➤ I am an examiner in Workgroup: Example: 1610

➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to STIC/Biotech-Chem Library Remsen Bldg.

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8-284

ACCESS DB # 197776
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Scientific and Technical Information Center

JUL 26 2006

SEARCH REQUEST FORM

Requester's Full Name: Sudhakar Katakam Examiner #: 82625 Date: 8/07/06Art Unit: 1621 Phone Number: 2-9929 Serial Number: 10/734946Location (Bldg/Room#): Rem/5025 (Mailbox #): 5C18 Results Format Preferred (circle): PAPER DISK

To ensure an efficient and quality search, please attach a copy of the cover sheet, claims, and abstract or fill out the following:

Title of Invention: Process for purification purifying HydrofluoropropaneInventors (please provide full names): V. N. M. Rao , A. C. SievertEarliest Priority Date: 08/14/06

Search Topic:

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known.

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

- Purification of halo hydrocarbons using bifunctional catalyst.

as metal

- carbon-supported metal hydrodehalogenation catalyst

- key words: Hydrogenolysis, olefinic impurities, hydrochlorofluorocarbons, halocarbons, halo hydrocarbons,

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=> d his ful

(FILE 'HOME' ENTERED AT 13:17:15 ON 10 AUG 2006)

FILE 'HCAPLUS' ENTERED AT 13:43:30 ON 10 AUG 2006

E RAO VELLIYUR/AU
L10 68 SEA ABB=ON ("RAO VELLIYUR N M"/AU OR "RAO VELLIYUR NOTT
MALLIKARJUNA"/AU)
E SIEVERT ALLEN C/AU
L11 71 SEA ABB=ON ("SIEVERT ALLEN C"/AU OR "SIEVERT ALLEN CAPRON"/AU)
L12 24 SEA ABB=ON L10 AND L11
L13 5 SEA ABB=ON L12 AND ?HYDROFLUORO?
SELECT RN L13 1,3

FILE 'REGISTRY' ENTERED AT 13:48:01 ON 10 AUG 2006

L14 189 SEA ABB=ON (690-27-7/BI OR 690-39-1/BI OR 7664-39-3/BI OR
102526-10-3/BI OR 11106-95-9/BI OR 115413-08-6/BI OR 116342-01-
9/BI OR 119450-61-2/BI OR 119450-64-5/BI OR 119450-65-6/BI OR
119450-66-7/BI OR 119450-67-8/BI OR 119450-68-9/BI OR 119450-69
-0/BI OR 119450-86-1/BI OR 1308-38-9/BI OR 133117-31-4/BI OR
1333-74-0/BI OR 1344-28-1/BI OR 138495-42-8/BI OR 138507-15-0/B
I OR 141993-31-9/BI OR 141993-32-0/BI OR 1422-49-7/BI OR
142347-09-9/BI OR 142347-10-2/BI OR 142347-12-4/BI OR 142347-13
-5/BI OR 142347-14-6/BI OR 142347-15-7/BI OR 142347-16-8/BI OR
142347-17-9/BI OR 142347-18-0/BI OR 148565-53-1/BI OR 149632-58
-6/BI OR 149632-59-7/BI OR 149632-62-2/BI OR 149632-63-3/BI OR
151575-96-1/BI OR 151868-61-0/BI OR 152267-17-9/BI OR 154381-45
-0/BI OR 154381-46-1/BI OR 154381-47-2/BI OR 154381-48-3/BI OR
154381-51-8/BI OR 154381-52-9/BI OR 1547-26-8/BI OR 158118-01-5
/BI OR 158389-17-4/BI OR 158421-88-6/BI OR 158664-13-2/BI OR
161791-23-7/BI OR 161791-24-8/BI OR 161791-30-6/BI OR 161791-32
-8/BI OR 161791-33-9/BI OR 161791-36-2/BI OR 1645-83-6/BI OR
175400-98-3/BI OR 17997-56-7/BI OR 1814-88-6/BI OR 1840-18-2/BI
OR 1892-03-1/BI OR 206113-45-3/BI OR 22146-75-4/BI OR
2252-83-7/BI OR 2252-99-5/BI OR 22692-37-1/BI OR 2367-86-4/BI
OR 24270-68-6/BI OR 26981-59-9/BI OR 2714-31-0/BI OR 2794-16-3/
BI OR 2804-50-4/BI OR 29118-24-9/BI OR 2924-29-0/BI OR
32864-57-6/BI OR 343627-57-6/BI OR 35230-11-6/BI OR 355-95-3/BI
OR 35709-17-2/BI OR 374-12-9/BI OR 374-27-6/BI OR 374-31-2/BI
OR 374-39-0/BI OR 377-95-7/BI OR 37826-35-0/BI OR 382-10-5/BI
OR 382-20-7/BI OR 38436-17-8/BI OR 392-45-0/BI OR 3932-66-9/BI
OR 403855-48-1/BI OR 406-58-6/BI OR 407-59-0/BI OR 407-60-3/BI
OR 40723-63-5/BI OR 40723-64-6/BI OR 41004-41-5/BI OR 421-48-7/
BI OR 431-63-0/BI OR 460-36-6/BI OR 460-73-1/BI OR 503189-10-4/
BI OR 53005-35-9/BI OR 54572-23-5/BI OR 5528-43-8/BI OR
65781-18-2/BI OR 65781-19-3/BI OR 65781-23-9/BI OR 65781-24-0/B
I OR 662-00-0/BI OR 662-35-1/BI OR 66794-30-7/BI OR 677-21-4/BI
OR 677-56-5/BI OR 679-86-7/BI OR 71040-09-0/BI OR 71127-07-6/

FILE 'HCAPLUS' ENTERED AT 13:48:47 ON 10 AUG 2006

L15 4 SEA ABB=ON L13 AND L14
L16 ANALYZE L13 1,3 CT : 10 TERMS

FILE 'REGISTRY' ENTERED AT 14:05:20 ON 10 AUG 2006

L17 2 SEA ABB=ON (CHLORINE OR FLUORINE)/CN

FILE 'HCAPLUS' ENTERED AT 14:05:35 ON 10 AUG 2006

L18 336759 SEA ABB=ON (?HYDROGENAT? OR ?HYDROGENOLYSIS? OR ?HYDRODECHLORI
NAT?)

L19 17947 SEA ABB=ON L18 AND (?HALOCARBON? OR ?HALOHYDROCARBON? OR
?HYDROCHLOROFLUOROCARBON? OR ?ALKANE? OR ?ALKENE?)
L20 589 SEA ABB=ON L19 AND (?PURIF? OR ?IMPUR?)
L21 28 SEA ABB=ON L20 AND (?OLEFIN? (3A) ?IMPUR?)
L22 589 SEA ABB=ON L20 OR L21

FILE 'REGISTRY' ENTERED AT 14:08:02 ON 10 AUG 2006

L23 2 SEA ABB=ON (GOLD OR PALLADIUM OR METAL)/CN
L24 2 SEA ABB=ON (GOLD OR PALLADIUM OR METALS)/CN

FILE 'HCAPLUS' ENTERED AT 14:09:12 ON 10 AUG 2006

L25 12 SEA ABB=ON L22 AND (L17 OR ?CHLORINE? OR ?FLUORINE?)
L26 90 SEA ABB=ON L22 AND (L23 OR ?CHLORINE? OR ?FLUORINE?) (L) ?CATAL?

FILE 'REGISTRY' ENTERED AT 14:10:13 ON 10 AUG 2006

L27 0 SEA ABB=ON HYDROFLUOROPROPANE/CN

FILE 'HCAPLUS' ENTERED AT 14:35:55 ON 10 AUG 2006

L28 110 SEA ABB=ON L22 AND (L24 OR ?BIFUNCT? OR ?GOLD? OR ?PALLADIUM?)
L29 113 SEA ABB=ON L26 OR L28
L30 14 SEA ABB=ON L29 AND (?BIFUNCTIONAL? OR ?SUPPORT? (3A) ?CARBON?
OR ?HYDROFLUOROPROPANE?)
L31 12 SEA ABB=ON L30 AND (PRD<20031211 OR PD<20031211) *12 cite from CAPLUS*

FILE 'MEDLINE, BIOSIS, EMBASE, JAPIO, JICST-EPLUS' ENTERED AT 14:38:21 ON
10 AUG 2006

L32 2 SEA ABB=ON L30 *2 cite from Jdb's*

FILE 'COMPENDEX, CHEMINFORMRX, DJSMONLINE, PS' ENTERED AT 14:39:07 ON 10
AUG 2006

L33 0 SEA ABB=ON L30

FILE 'WPIDS' ENTERED AT 14:41:20 ON 10 AUG 2006

L34 2 SEA ABB=ON L29 AND (?BIFUNCTIONAL? OR ?SUPPORT? (3A) ?CARBON?
OR ?HYDROFLUOROPROPANE?) *2 cite from WPIDS*

FILE 'USPATFULL' ENTERED AT 14:44:49 ON 10 AUG 2006

L35 1763 SEA ABB=ON L30 AND (PRD<20031211 OR PD<20031211)
L36 2 SEA ABB=ON L35 AND ?HYDROFLUOROPROPANE?
L37 1762 SEA ABB=ON L35 AND (?BIFUNCTIONAL? OR ?SUPPORT? (3A) ?CARBON?)
L38 921 SEA ABB=ON L37 AND ?SUPPORT? (3A) ?CARBON?
L39 154 SEA ABB=ON L37 AND ?SUPPORT? (W) ?CARBON?
L40 0 SEA ABB=ON L39 AND ?BIFUNCTIONAL?
L41 154 SEA ABB=ON L39 AND ?PROCESS?
L42 63 SEA ABB=ON L41 AND ?PURIF?
L43 63 SEA ABB=ON L42 AND (?METAL? OR L24 OR ?GOLD? OR ?PALLADIUM?)
L44 5 SEA ABB=ON L43 AND ?PURIF? (5A) (?OLEFIN? OR ?CHLORIN?)
L45 7 SEA ABB=ON L36 OR L44 *7 cite from US Patfull*

FILE HOME

FILE REGISTRY

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 9 AUG 2006 HIGHEST RN 900096-56-2

DICTIONARY FILE UPDATES: 9 AUG 2006 HIGHEST RN 900096-56-2

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

FILE HCAPLUS

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FILE COVERS 1907 - 10 Aug 2006 VOL 145 ISS 7
FILE LAST UPDATED: 9 Aug 2006 (20060809/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE MEDLINE

FILE LAST UPDATED: 9 Aug 2006 (20060809/UP). FILE COVERS 1950 TO DATE.

On December 11, 2005, the 2006 MeSH terms were loaded.

The MEDLINE reload for 2006 is now (26 Feb.) available. For details on the 2006 reload, enter HELP RLOAD at an arrow prompt (=>).
See also:

<http://www.nlm.nih.gov/mesh/>
http://www.nlm.nih.gov/pubs/techbull/nd04/nd04_mesh.html
http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_med_data_changes.html
http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_2006_MeSH.html

OLDMEDLINE is covered back to 1950.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2006 vocabulary.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE BIOSIS

FILE COVERS 1969 TO DATE.

CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 9 August 2006 (20060809/ED)

FILE EMBASE

FILE COVERS 1974 TO 10 Aug 2006 (20060810/ED)

EMBASE has been reloaded. Enter HELP RLOAD for details.

EMBASE is now updated daily. SDI frequency remains weekly (default) and biweekly.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE JAPIO

FILE LAST UPDATED: 3 APR 2006 <20060403/UP>

FILE COVERS APRIL 1973 TO DECEMBER 22, 2005

>>> GRAPHIC IMAGES AVAILABLE <<<

>>> NEW IPC8 DATA AND FUNCTIONALITY NOT YET AVAILABLE IN THIS FILE.
USE IPC7 FORMAT FOR SEARCHING THE IPC. WATCH THIS SPACE FOR FURTHER
DEVELOPMENTS AND SEE OUR NEWS SECTION FOR FURTHER INFORMATION
ABOUT THE IPC REFORM <<<

FILE JICST-EPLUS

FILE COVERS 1985 TO 7 AUG 2006 (20060807/ED)

THE JICST-EPLUS FILE HAS BEEN RELOADED TO REFLECT THE 1999 CONTROLLED
TERM (/CT) THESAURUS RELOAD.

FILE COMPENDEX

FILE LAST UPDATED: 7 AUG 2006 <20060807/UP>

FILE COVERS 1970 TO DATE.

<<< SIMULTANEOUS LEFT AND RIGHT TRUNCATION AVAILABLE IN
THE BASIC INDEX >>>

FILE WPIDS

FILE LAST UPDATED: 9 AUG 2006 <20060809/UP>

MOST RECENT DERWENT UPDATE: 200651 <200651/DW>

DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE,
PLEASE VISIT:
http://www.stn-international.de/training_center/patents/stn_guide.pdf <>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE
<http://scientific.thomson.com/support/patents/coverage/latestupdates/>>>> PLEASE BE AWARE OF THE NEW IPC REFORM IN 2006, SEE
http://www.stn-international.de/stndatabases/details/ipc_reform.html and
<http://scientific.thomson.com/media/scpdf/ipcrdwpf.pdf> <<<>>> FOR FURTHER DETAILS ON THE FORTHCOMING DERWENT WORLD PATENTS
INDEX ENHANCEMENTS PLEASE VISIT:
http://www.stn-international.de/stndatabases/details/dwpi_r.html <<<

FILE CHEMINFORMRX

FILE LAST UPDATED: 12 JUN 2006 <20060612/UP>

>>> CAS Registry Numbers are available for
substances prior to 1995 <<<

FILE DJSMONLINE

FILE LAST UPDATED: 08 MAR 2006 <20060308/UP>

>>> DERWENT JOURNAL OF SYNTHETIC METHODS -

DERWENT NON-SUBSCRIBER FILE >>>

>>> FILE COVERS 1975 TO 2004 DATA <<<

>>> GRAPHIC IMAGES OF THE PRINTED DERWENT JOURNAL OF SYNTHETIC
METHODS ARE AVAILABLE FROM 1975 TO 2004 <<<

>>> PLEASE NOTE: IN DJSM HYDROGEN BONDS CANNOT BE DEFINED AS
REACTION SITES <<<

FILE PS

FILE LAST RELOADED: 3 FEB 2006 <20060203/UP>

FILE COVERS 1957 TO DATE

>>> Simultaneous left and right truncation is available in the
Basic Index (/BI) and Chemical Name Segment (/CNS) fields <<<

>>> Images are available online and for email-prints <<<

FILE USPATFULL

FILE COVERS 1971 TO PATENT PUBLICATION DATE: 10 Aug 2006 (20060810/PD)

FILE LAST UPDATED: 10 Aug 2006 (20060810/ED)

HIGHEST GRANTED PATENT NUMBER: US7089595

HIGHEST APPLICATION PUBLICATION NUMBER: US2006179536

CA INDEXING IS CURRENT THROUGH 8 Aug 2006 (20060808/UPCA)

ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 10 Aug 2006 (20060810/PD)

REVISED CLASS FIELDS (/NCL) LAST RELOADED: Apr 2006

USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Apr 2006

=> d que stat l31

L18 336759 SEA FILE=HCAPLUS ABB=ON (?HYDROGENAT? OR ?HYDROGENOLYSIS? OR
?HYDRODECHLORINAT?)
L19 17947 SEA FILE=HCAPLUS ABB=ON L18 AND (?HALOCARBON? OR ?HALOHYDROCAR
BON? OR ?HYDROCHLOROFLUOROCARBON? OR ?ALKANE? OR ?ALKENE?)
L20 589 SEA FILE=HCAPLUS ABB=ON L19 AND (?PURIF? OR ?IMPUR?)
L21 28 SEA FILE=HCAPLUS ABB=ON L20 AND (?OLEFIN?(3A)?IMPUR?)
L22 589 SEA FILE=HCAPLUS ABB=ON L20 OR L21
L23 2 SEA FILE=REGISTRY ABB=ON (GOLD OR PALLADIUM OR METAL)/CN
L24 2 SEA FILE=REGISTRY ABB=ON (GOLD OR PALLADIUM OR METALS)/CN
L26 90 SEA FILE=HCAPLUS ABB=ON L22 AND (L23 OR ?CHLORINE? OR
?FLUORINE?) (L)?CATAL?
L28 110 SEA FILE=HCAPLUS ABB=ON L22 AND (L24 OR ?BIFUNCT? OR ?GOLD?
OR ?PALLADIUM?)
L29 113 SEA FILE=HCAPLUS ABB=ON L26 OR L28
L30 14 SEA FILE=HCAPLUS ABB=ON L29 AND (?BIFUNCTIONAL? OR ?SUPPORT?(3
A)?CARBON? OR ?HYDROFLUOROPROPANE?)
L31 12 SEA FILE=HCAPLUS ABB=ON L30 AND (PRD<20031211 OR PD<20031211)

=> d ibib abs l31 1-12

L31 ANSWER 1 OF 12 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:701855 HCAPLUS

DOCUMENT NUMBER: 141:227253

TITLE: Catalytic **hydrogenation** and fluorination
process for **purifying**
hydrofluoropropanes

INVENTOR(S): Rao, Velliyur Nott Mallikarjuna; Sievert, Allen C.

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 9 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004167366	A1	20040826	US 2003-734946	20031211 <--
PRIORITY APPLN. INFO.:			US 2002-433295P	P 20021213 <--

OTHER SOURCE(S): MARPAT 141:227253

AB A process is described for **purifying** a
hydrofluoropropane of undesirable C2-4 olefinic and C1-4 saturated
chlorinated **impurities**, comprising: contacting a first mixture of
hydrofluoropropane, **olefinic impurity** and
saturated chlorinated **impurity** with hydrogen and hydrogen fluoride
concurrently in the presence of a **bifunctional** catalyst, for
example an alloy of **gold** and **palladium**
supported on carbon, capable of catalyzing
hydrogenation and fluorination. During the contacting step, the
olefinic impurity is converted into a saturated
hydrogenated derivative and/or saturated hydrofluorinated derivative, and the
saturated chlorinated **impurity** is converted into a saturated
hydrodechlorinated derivative and/or a saturated fluorinated derivative The
hydrofluoropropane thus formed is substantially free of both the
olefinic and saturated chlorinated **impurities** and may be
used as obtained or subjected to further **purification** steps.

L31 ANSWER 2 OF 12 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:513407 HCAPLUS

Application

DOCUMENT NUMBER: 141:72015
TITLE: Process and apparatus for removing unsaturated
impurities from oxygenates to **olefin**
streams
INVENTOR(S): Van Egmond, Cor F.; Shutt, John Richard
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 22 pp., Cont.-in-part of U.S.
Ser. No. 327,783.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004122274	A1	20040624	US 2003-382308	20030305 <--
US 2004122272	A1	20040624	US 2002-327783	20021223

PRIORITY APPLN. INFO.: US 2002-327783 A2 20021223 <--

AB Disclosed is a method and apparatus for removing highly unsatd. contaminants from an effluent stream produced by an oxygenates to olefins process. The oxygenates to olefins process produces an effluent that contains low concns. of acetylene, Me acetylene and propadiene. These contaminants can be removed using a "front-end" scheme, which utilizes internally generated hydrogen, to selectively **hydrogenate** these highly unsatd. contaminants without significant loss of olefin products.

L31 ANSWER 3 OF 12 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:513405 HCAPLUS
DOCUMENT NUMBER: 141:72013
TITLE: Process and apparatus for removing unsaturated
impurities from oxygenates to **olefins**
streams
INVENTOR(S): Van Egmond, Cor F.; Shutt, John Richard
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 22 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004122272	A1	20040624	US 2002-327783	20021223
US 2004122274	A1	20040624	US 2003-382308	20030305 <--

PRIORITY APPLN. INFO.: US 2002-327783 A2 20021223 <--

AB Disclosed is a method and apparatus for removing highly unsatd. contaminants from an effluent stream produced by an oxygenates to olefins process. The oxygenates to olefins process produces an effluent that contains low concns. of acetylene, Me acetylene and propadiene. These contaminants can be removed using a "front-end" scheme, which utilizes internally generated hydrogen, to selectively **hydrogenate** these highly unsatd. contaminants without significant loss of olefin products.

L31 ANSWER 4 OF 12 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:76236 HCAPLUS
DOCUMENT NUMBER: 140:147237
TITLE: Method for producing selective separation membrane
excellent in anti-fouling stability

INVENTOR(S): Koo, Ja-yeong; Kim, Sun-sik; Yoon, Seong-ro; Hong, Son-pyo
PATENT ASSIGNEE(S): Saehan Industries, Inc., S. Korea
SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004025102	A2	20040129	JP 2002-187857	20020627 <--
PRIORITY APPLN. INFO.:			JP 2002-187857	20020627 <--

AB A method is provided for producing selective separation membrane (polyamide reverse-osmosis composite membrane) excellent in fouling stability. The method comprises forming a polyamide thin film on a porous support body, and afterwards, performing a hydrophilic coating on the polyamide thin film to produce a hydrophilic polyamide reverse-osmosis composite membrane. The hydrophilic coating is characterized in that an epoxy compound possessing at least more than two epoxy groups is coated on the polyamide composite membrane, and afterwards, the epoxy compound is cross-linked to yield a water-insol. polymer.

L31 ANSWER 5 OF 12 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:75963 HCAPLUS

DOCUMENT NUMBER: 140:130454

TITLE: Composite polyamide reverse-osmosis membranes prepared by epoxy-resin crosslinking of deposited polyamide layer on microporous support

INVENTOR(S): Koo, Ja-Young; Yoon, Sung Ro; Kim, Soon Sik; Hong, Sung Pyo

PATENT ASSIGNEE(S): Saehan Industries, Inc., S. Korea

SOURCE: Ger. Offen., 16 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10228148	A1	20040129	DE 2002-10228148	20020624
FR 2843045	A1	20040206	FR 2002-9654	20020730 <--
PRIORITY APPLN. INFO.:			DE 2002-10228148	A 20020624 <--

AB Composite polyamide reverse-osmosis membranes with a high fouling stability consist of: (1) a microporous support, (2) a polyamide layer deposited on the support, and (3) a hydrophilic layer on the polyamide layer prepared by reacting a polyfunctional epoxy compound (containing ≥ 2 epoxy groups) followed by crosslinking the polyfunctional epoxy compound (e.g., with a nucleophilic crosslinking agent) to yield a water-insol. polymer. Suitable crosslinking agents include diols and polyhydroxy alcs., monosaccharides, polysaccharides, saccharide amines, cellulose and cellulose derivs., polyoxyalkylenes, **alkanediamines**, polyamines, polyethylenepolyamines, and amino-terminated polyoxyalkylenes. Suitable microporous supports are microfiltration and ultrafiltration membranes. The product reverse-osmosis membrane is especially suitable for water **purification** and water desalination.

L31 ANSWER 6 OF 12 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:435371 HCAPLUS
DOCUMENT NUMBER: 139:7368
TITLE: Process for the adsorptive removal of acetylenic
impurities from C2-8 **alkenes**
INVENTOR(S): Satek, Larry C.; Foral, Michael J.; Ventura, Diadema
N.
PATENT ASSIGNEE(S): BP Corporation North-America Inc., USA
SOURCE: U.S. Pat. Appl. Publ., 13 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003105377	A1	20030605	US 2001-998076	20011130 <--
US 6680419	B2	20040120		

PRIORITY APPLN. INFO.: US 2001-998076 20011130 <--

AB Processes using heterogeneous adsorbents are described for the **purification** of olefins such as are typically produced by thermal cracking of suitable hydrocarbon feedstocks, by: providing a **impure** mixture comprising at least one C2-8 olefin (e.g., ethylene), acetylenic **impurities** (e.g., acetylene) having the same or similar carbon content in an amount of up to about $\leq 1\%$ volume based upon the total amount of olefin present and optionally saturated hydrocarbon gases; admixing a source of hydrogen with the **impure** mixture to form a feedstream comprising a sub-stoichiometric amts. of hydrogen based upon the conversion of the total amount of acetylenic **impurities** present to their **olefinic** analogs; and passing the feedstream through a particulate bed of adsorbent comprising predominantly a support material on which is dispersed ≥ 1 metallic element(s) in the zero valent state (e.g., Pd/ γ -alumina), to effect, under conditions suitable for adsorption within the bed, selective adsorption and/or complexing of the contained acetylenic contaminants with the adsorbent, and thereby obtain **purified** olefinic product which contains < 1 ppm by volume of the acetylenic **impurities**. The resulting bed of adsorbent is then regenerated in the presence of a reducing gas containing hydrogen to effect release of the contained acetylenic **impurities** from the adsorbent; a process flow diagram is presented.

L31 ANSWER 7 OF 12 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:594800 HCAPLUS
DOCUMENT NUMBER: 137:140908
TITLE: **Hydrogenation** method and carbon fiber-based catalysts for **purifying** crude terephthalic acid
INVENTOR(S): Haake, Mathias; Schwab, Ekkehard; Koch, Michael; Mueller, Hans-Joachim; Stroezel, Manfred; Petersen, Hermann; Schreyer, Peter
PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Germany
SOURCE: PCT Int. Appl., 25 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2002060851 A1 20020808 WO 2002-EP900 20020129 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
UA, UG, US, UZ, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,
CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,
BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
DE 10104224 A1 20020801 DE 2001-10104224 20010131 <--
DE 10141848 A1 20030320 DE 2001-10141848 20010827 <--
CA 2435918 AA 20020808 CA 2002-2435918 20020129 <--
EP 1358149 A1 20031105 EP 2002-710816 20020129 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
JP 2004529092 T2 20040924 JP 2002-561002 20020129 <--
US 2004049073 A1 20040311 US 2003-466478 20030716 <--
US 7041847 B2 20060509
PRIORITY APPLN. INFO.: DE 2001-10104224 A 20010131 <--
DE 2001-10141848 A 20010827 <--
WO 2002-EP900 W 20020129 <--

AB The invention relates to a method for cleaning crude terephthalic acid by means of a catalytic, **hydrogenating** aftertreatment using a catalyst material containing at least one **hydrogenation** metal applied to a carbon carrier consisting of carbon fibers. The catalyst consists of at least one catalyst material containing at least one **hydrogenation** metal applied to the carbon fibers, the BET surface of which are <500 m²/g, and a monolithic catalyst consisting of at least one catalyst material containing the **hydrogenation** material applied to the carbon fibers, and at least one support element or skeleton element which differs from the catalyst material and is connected to the same, said element mech. supporting the catalyst material and maintaining the same in a monolithic form.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L31 ANSWER 8 OF 12 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:487500 HCAPLUS

DOCUMENT NUMBER: 137:63020

TITLE: Process for preparation of polyhydric alcohols by oxidation of olefins having a carbonyl group and catalytic **hydrogenation**

INVENTOR(S): Takahara, Jun; Setoyama, Tohru

PATENT ASSIGNEE(S): Mitsubishi Chemical Corporation, Japan

SOURCE: PCT Int. Appl., 44 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002049999	A1	20020627	WO 2001-JP11093	20011218 <--
W:				
AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ,				

VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,
 CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,
 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

JP 2002187860 A2 20020705 JP 2000-383250 20001218 <--
 AU 2002022687 A5 20020701 AU 2002-22687 20011218 <--
 ZA 2003003769 A 20040517 ZA 2003-3769 20030515 <--
 PRIORITY APPLN. INFO.: JP 2000-383250 A 20001218 <--
 WO 2001-JP11093 W 20011218 <--

OTHER SOURCE(S): CASREACT 137:63020

AB The invention relates to a process for preparation of polyhydric alcs. which comprises efficiently oxidizing an olefin having a carbonyl group with mol. oxygen and subjecting the obtained reaction product to hydrolysis and reduction, more specifically, a process for preparation of polyhydric alcs. which

comprises reacting an olefin having an optionally protected carbonyl group and an ethylenic double bond in the mol. with oxygen and an alc. to thereby obtain a reaction product containing an acetal and/or a ketal and hydrolyzing and reducing the acetal and/or the ketal. Thus, a 1:3 mixture of acrolein and 1,3-propanediol was stirred with 2 weight% Amberlyst 15 (acidic ion exchanger) at room temperature for 20 min to give 70% 2-vinyl-1,3-dioxane (I). Na₂PdCl₄ 0.1, CuCl 0.1, and FeCl₃ 0.1 mmol were completely dissolved in 6 g 1,3-propanediol and was treated with 9.7 mmol I and the resulting solution was placed in a stainless steel autoclave, treated with benzene, pressurized under 0.7 MPa oxygen, stirred in a water bath (80°) for 25 min while replenishing consumed oxygen to maintain the pressure constant, and rapidly cooled in an ice bath to give a desired product of bis(1,3-dioxan-2-yl)methane (II) (75.0% selectivity) and 2-(6-hydroxy-3-oxahexyl)-1,3-dioxane (III) (7.0% selectivity) with 79.4% selectivity for the desired product and 98.2% conversion of I. The benzene layer was separated and **purified** after removing benzene by distillation to give a mixture of the desired product, to which were added

zeolite

USY (silica/alumina ratio of 50) 0.25, 5% Ru/C 0.38, and H₂O 2.5 g. The resulting mixture was placed in an autoclave, purged with hydrogen, pressurized to 0.9 MPa with hydrogen, and stirred for hydrolysis and reduction in an oil bath until the consumption of hydrogen ceased which took for .apprx.30 min to give 1,3-propanediol with 99.6% selectivity and 99.6% conversion of II and III.

REFERENCE COUNT: 53 THERE ARE 53 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L31 ANSWER 9 OF 12 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2000:806622 HCAPLUS

DOCUMENT NUMBER: 133:336875

TITLE: Process for **perfluorocycloalkane purification**

INVENTOR(S): Sievert, Allen Capron; Rao, V. N. Mallikarjuna

PATENT ASSIGNEE(S): E. I. Du Pont de Nemours & Co., USA

SOURCE: U.S., 5 pp.
 CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6147267	A	20001114	US 1999-429272	19991029 <--
PRIORITY APPLN. INFO.:			US 1998-107817P	P 19981110 <--

AB A process is disclosed for recovering at least one **perfluorocycloalkane** selected from octafluorocyclobutane, hexafluoro-bis(trifluoromethyl)cyclobutane (1,2- and 1,3-; cis- and trans-), and heptafluoro(trifluoromethyl)cyclobutane from a mixture comprising: (a) the **perfluorocycloalkane**; (b) **olefinic impurity** and, optionally; (c) saturated **chlorine-containing impurity** selected from the group consisting of chlorocarbons, hydrochlorocarbons, **hydrochlorofluorocarbons**, chlorofluorocarbons, and mixts. The process involves: (1) contacting the mixture with hydrogen in the presence of a **hydrogenation catalyst** under conditions suitable for converting at least a portion of the **olefinic impurity** to a saturated **impurity** containing at least one **fluorine** substituent less than the **olefin impurity** and reducing the **chlorine** content of at least a portion of the saturated **chlorine-containing impurity** (if present); and (2) separating said at least one **perfluorocycloalkane** from the products produced during the **hydrogenation** of (1).

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L31 ANSWER 10 OF 12 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1988:114683 HCAPLUS

DOCUMENT NUMBER: 108:114683

TITLE: Catalysts comprising a metal on an alkoxide-modified support

INVENTOR(S): Wood, Clayton D.; Read, Arthur E., Jr.

PATENT ASSIGNEE(S): Dow Chemical Co., USA

SOURCE: U.S., 16 pp. Cont.-in-part of U.S. 4,559,364.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4686314	A	19870811	US 1985-809544	19851216 <--
US 4559364	A	19851217	US 1984-655991	19840928 <--
US 4748145	A	19880531	US 1987-12924	19870209 <--
PRIORITY APPLN. INFO.:			US 1983-567112	A3 19831230 <--
			US 1984-655991	A2 19840928 <--
			US 1985-809544	A3 19851216 <--

AB A catalysts support having surface area ≥ 5 m²/g is treated with a metal alkoxide and calcined to form a metal oxide layer, and a metal catalysts is deposited on the treated support, giving catalysts having high activity in reactions such as methanation, olefin metathesis, carbonylation, and selective **hydrogenation** of acetylene in **alkenes** contaminated with acetylene. Treating 50 g γ -Al₂O₃ (surface area 100 m²/g) with 4.5 g (iso-BuO)₃Al (I) and calcining at 450° in air gave a support which was treated with Pd nitrate and reduced to give a catalysts containing 0.05% Pd. The catalysts was used for the selective **hydrogenation** of acetylene in ethylene. The catalysts had higher activity and caused less polymerization, compared with a similar catalysis prepared without treating the support with I.

L31 ANSWER 11 OF 12 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1987:575473 HCAPLUS

DOCUMENT NUMBER: 107:175473

TITLE: Synthesis of four n-alkanes with terminal

dipolar substituents
AUTHOR(S): Ainscow, T. A.; Belmont, M. R.; Henshall, J. L.;
Hooper, R. M.; Simmonds, D. J.
CORPORATE SOURCE: Dep. Eng. Sci., Univ. Exeter, Exeter/Devon, EX4 4QF,
UK
SOURCE: Tetrahedron (1987), 43(1), 115-22
CODEN: TETRAB; ISSN: 0040-4020
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 107:175473
AB The preparation of $O_2N(CH_2)_{12}OH$, $O_2N(CH_2)_{12}NO_2$, $O_2N(CH_2)_{24}NO_2$, and $HO_2CCH(NH_2)(CH_2)_{12}CH(NH_2)CO_2H$ from the common intermediate $Br(CH_2)_{12}OH$ (I) is reported. I was obtained from cyclododecane and was free of **bifunctional** homolog impurities. $Br(CH_2)_{11}CH:CH(CH_2)_{10}CHO$ was prepared via Wittig reaction of $Br(CH_2)_{11}CHO$ with $(RO)_2CH(CH_2)_{10}CH_2P+Ph_3Br^-$ ($R_2 = CH_2CH_2$) using a naked carbonate anion base. $R_1(CH_2)_{11}CH:CH(CH_2)_{10}CH_2R_2$ (II, $R_1 = Br$, $R_2 = OH$) and I were converted to II ($R_1 = R_2 = NO_2$) and $O_2N(CH_2)_{12}NO_2$ resp. via diiodide intermediates. **Hydrogenation** of the latter II gave $O_2N(CH_2)_{24}NO_2$. $HO_2CCH(NH_2)(CH_2)_{12}CH(NH_2)CO_2H$ was obtained by two methods, e.g., via lithiation and alkylation of $PhCH:NCH_2CO_2Et$ with $Br(CH_2)_{12}Br$. The reduction of $Br(CH_2)_{12}CO_2H$ with $BH_3 \cdot Me_2S$ to give II is also described.

L31 ANSWER 12 OF 12 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1968:86985 HCAPLUS

DOCUMENT NUMBER: 68:86985

TITLE: Reduction of ω -benzoyl aliphatic acids and derivatives. Dehydration of the **bifunctional** compounds obtained

AUTHOR(S): Cousseau, Jack; Lamant, Maurice

CORPORATE SOURCE: Lab. Syn. Org., Fac. Libre Sci., Angers, Fr.

SOURCE: Bulletin de la Societe Chimique de France (1967), (12), 4702-7

CODEN: BSCFAS; ISSN: 0037-8968

DOCUMENT TYPE: Journal

LANGUAGE: French

AB The reduction of ω -benzoyl alkanolic acids and esters was investigated. A 12% KOH solution containing 0.1M $Bz(CH_2)_nCO_2H$ (I) ($n = 2$) was mixed with 2 g. KBH_4 in 30 cc. water, refluxed 1 hr., and acidified to give 81% 4-phenylbutyrolactone, b18 178-9°, m. 32-3°. Similar treatment of I ($n = 3$) gave an unstable oil which could not be purified and of I ($n = 4$) gave 97% 6-phenyl-6-hydroxyhexanoic acid, m. 76°. **Hydrogenation** of $Bz(CH_2)_nCO_2Et$ (II) ($n = 3$) in the presence of Raney Ni at 40-50° gave Et 5-phenylvalerate, b9 147-9°, II ($n = 4$) gave Et 6-phenyl-6-hydroxyhexanoate, b19 208°, while II ($n = 2$) gave an inseparable lactone-ester mixture At 120-30°, II ($n = 2$) gave 40% Et 4-cyclohexylbutanoate, b8 126-7°, II ($n = 3$) gave 65% Et 5-cyclohexylpentanoate, b11 138-40°, and II ($n = 4$) gave 50% Et 6-cyclohexylhexanoate, b18 161°. Reduction of 0.1 mole II ($n = 2$) in 100 cc. ether with 10 g. $LiAlH_4$ in 500 cc. ether gave 78% $PhCHOH(CH_2)_nCH_2OH$ (III) ($n = 2$), m. 67°. Similarly prepared were III ($n = 3$), m. 54°, and III ($n = 4$), m. 57°. II ($n = 2$) (0.2 mole) in 200 cc. C_6H_6 was refluxed with 0.25 mole $HOCH_2CH_2OH$ and 1 g. p- $HO_3SC_6H_4Me$ 30 min. after the theoretical amount of water was removed to give 55% Et 4,4-ethylenedioxy-4-phenylbutanoate (IV), b15 179-81°. Similarly prepared were Et 5,5-ethylenedioxy-5-phenylpentanoate, b14 188°, and Et 6,6-ethylenedioxy-6-phenylhexanoate, b16 203°. IV was reduced with $LiAlH_4$ to give 76% 4,4-ethylenedioxy-4-phenylbutanol, b10 174-6°.

Similarly prepared were 5,5-ethylenedioxy-5-phenylpentanol, b10 178-80°, and 6,6-ethylenedioxy-6-phenylhexanol, b12 192-4°. The latter (0.05 mole) in 50 cc. 15% H2SO4 containing a small amount of alc.

was

refluxed 30 min. and stripped of alc. by distillation to give 60%

Bz(CH2)4CH2OH,

b10-11 187-8°. Similar treatment of the other dioxolane alcs. gave mixts. containing predominantly 2-phenyl-4,5-dihydrofuran, b7 107-10°, and 2-phenyl-5,6-dihydro-γ-pyran, b7 118°, resp. Distillation of PhCHOH(CH2)3CO2H under reduced pressure gave 75% 5-phenylvalerolactone, b20 202°; trans-6-phenyl-5-hexene-1-carboxylic acid, b17-18 206-7°, was prepared similarly. Dehydration of PhCHOH(CH2)3CO2H with p-HO3SC6H4Me gave 17% trans-5-phenyl-4-pentene-1-carboxylic acid, b10 188-90°. III (n = 2) was dehydrated with p-HO3SC6H4Me to give 75% 2-phenyltetrahydrofuran, b21 114-15°. Similar treatment of III (n = 3) gave a mixture of 60% 2-phenyltetrahydropyran, b12 114°, and 15% trans-5-phenyl-4-penten-1-ol, b14 157-60°, while III (n = 4) gave 75% trans-6-phenyl-5-hexen-1-ol, b17 174-5°.

=> d que stat l32

L18 336759 SEA FILE=HCAPLUS ABB=ON (?HYDROGENAT? OR ?HYDROGENOLYSIS? OR
?HYDRODECHLORINAT?)
L19 17947 SEA FILE=HCAPLUS ABB=ON L18 AND (?HALOCARBON? OR ?HALOHYDROCAR
BON? OR ?HYDROCHLOROFLUOROCARBON? OR ?ALKANE? OR ?ALKENE?)
L20 589 SEA FILE=HCAPLUS ABB=ON L19 AND (?PURIF? OR ?IMPUR?)
L21 28 SEA FILE=HCAPLUS ABB=ON L20 AND (?OLEFIN?(3A)?IMPUR?)
L22 589 SEA FILE=HCAPLUS ABB=ON L20 OR L21
L23 2 SEA FILE=REGISTRY ABB=ON (GOLD OR PALLADIUM OR METAL)/CN
L24 2 SEA FILE=REGISTRY ABB=ON (GOLD OR PALLADIUM OR METALS)/CN
L26 90 SEA FILE=HCAPLUS ABB=ON L22 AND (L23 OR ?CHLORINE? OR
?FLUORINE?) (L)?CATAL?
L28 110 SEA FILE=HCAPLUS ABB=ON L22 AND (L24 OR ?BIFUNCT? OR ?GOLD?
OR ?PALLADIUM?)
L29 113 SEA FILE=HCAPLUS ABB=ON L26 OR L28
L30 14 SEA FILE=HCAPLUS ABB=ON L29 AND (?BIFUNCTIONAL? OR ?SUPPORT?(3
A)?CARBON? OR ?HYDROFLUOROPROPANE?)
L32 2 SEA L30

=> d ibib abs l32 1-2

L32 ANSWER 1 OF 2 MEDLINE on STN
ACCESSION NUMBER: 88326984 MEDLINE
DOCUMENT NUMBER: PubMed ID: 3416002
TITLE: On the mechanism of induction of the enzyme systems for
peroxisomal beta-oxidation of fatty acids in rat liver by
diets rich in partially **hydrogenated** fish oil.
AUTHOR: Flatmark T; Nilsson A; Kvannes J; Eikhom T S; Fukami M H;
Kryvi H; Christiansen E N
CORPORATE SOURCE: Department of Biochemistry, University of Bergen, Norway.
SOURCE: Biochimica et biophysica acta, (1988 Sep 2) Vol. 962, No.
1, pp. 122-30.
Journal code: 0217513. ISSN: 0006-3002.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198810
ENTRY DATE: Entered STN: 8 Mar 1990
Last Updated on STN: 3 Feb 1997
Entered Medline: 26 Oct 1988

AB In this paper, we describe the early biochemical changes in liver cells
that occur in rats fed a semisynthetic diet containing 20% (w/w) partially
hydrogenated fish oil. Within hours the level of ornithine
decarboxylase (ODC) increased, peaked at about 24 h (11-fold increase) and
returned to subnormal levels within 48 h. The diet evoked a similar rapid
increase in the cellular level of mRNA for the **bifunctional**
enzyme of peroxisomal beta-oxidation (enoyl-CoA hydratase:
beta-hydroxyacyl-CoA dehydrogenase (HD)) (12-fold), followed by increases
in the specific content of HD protein (3-fold) and the capacity for
beta-oxidation in peroxisomes (5.3-fold). The cellular level of
long-chain acyl-CoA increased 2.1-fold. By contrast, no significant
changes were observed in the specific activities of ornithine
decarboxylase, peroxisomal beta-oxidation activity and microsomal
omega-hydroxylation as well as the level of long-chain acyl-CoA in livers
of rats fed (1 week) diets containing 20% (w/w) soybean oil with added 3
or 6% (w/w) of either elaidic acid (18:1(11) (trans)), brassidic acid
(22:1(13) (trans)) or erucic acid (22:1(13) (cis)). Expression of normal
levels of mRNA for the **bifunctional** enzyme was also found.
Morphometric analyses revealed no proliferation of peroxisomes in these

fatty acid-supplemented diets, in contrast to that observed with the partially **hydrogenated** fish oil diet. These results are consistent with the proposal (Flatmark, T., Christiansen, E.N. and Kryvi, H. (1983) Biochim. Biohys. Acta 753, 460-466) that components in dietary oils, different from C22:1 cis and trans fatty acids, are responsible for the pleiotropic responses evoked in target cells. Thus, the pattern of response induced by partially **hydrogenated** fish oil mimics those induced by xenobiotic compounds collectively termed peroxisome proliferators.

L32 ANSWER 2 OF 2 JICST-EPlus COPYRIGHT 2006 JST on STN
ACCESSION NUMBER: 990763201 JICST-EPlus
TITLE: Synthesis of Clean Fuel from **Alkanes** with Novel Metal-Solid Superacid **Bifunctional** Catalysts.
AUTHOR: OKUHARA TOSHIO; NAKATO TERUYUKI
CORPORATE SOURCE: Hokkaido Univ., Grad. Sch.
SOURCE: Iwatani Naoji Kinen Zaidan Kenkyu Hokokusho, (1999) vol. 22, pp. 6-8. Journal Code: Y0533A (Fig. 2, Tbl. 1, Ref. 7)
ISSN: 0287-3532
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Article
LANGUAGE: Japanese
STATUS: New

AB Skeletal isomerization of n-**alkanes** has been studied over novel **bifunctional** catalyst consisting of Pt and heteropoly compound. Pt-promoted Cs_{2.5}H_{0.5}PW₁₂O₄₀ was found to be much more active and selective for the formation of isobutane from n-butane than other typical Pt-promoted catalysts. Furthermore, this catalyst was effective for hydroisomerization of benzene to methylcyclopentane which is a clean and high octane component of gasoline. In this catalyst, protons exhibited unique function; protons present in proximity of Pt particles suppress the side reaction, **hydrogenolysis**. The selectivity to isobutane was greatly affected by the pore-width of the catalyst. (author abst.)

=> d que stat l34

L18 336759 SEA FILE=HCAPLUS ABB=ON (?HYDROGENAT? OR ?HYDROGENOLYSIS? OR
?HYDRODECHLORINAT?)
L19 17947 SEA FILE=HCAPLUS ABB=ON L18 AND (?HALOCARBON? OR ?HALOHYDROCAR
BON? OR ?HYDROCHLOROFLUOROCARBON? OR ?ALKANE? OR ?ALKENE?)
L20 589 SEA FILE=HCAPLUS ABB=ON L19 AND (?PURIF? OR ?IMPUR?)
L21 28 SEA FILE=HCAPLUS ABB=ON L20 AND (?OLEFIN?(3A)?IMPUR?)
L22 589 SEA FILE=HCAPLUS ABB=ON L20 OR L21
L23 2 SEA FILE=REGISTRY ABB=ON (GOLD OR PALLADIUM OR METAL)/CN
L24 2 SEA FILE=REGISTRY ABB=ON (GOLD OR PALLADIUM OR METALS)/CN
L26 90 SEA FILE=HCAPLUS ABB=ON L22 AND (L23 OR ?CHLORINE? OR
?FLUORINE?) (L)?CATAL?
L28 110 SEA FILE=HCAPLUS ABB=ON L22 AND (L24 OR ?BIFUNCT? OR ?GOLD?
OR ?PALLADIUM?)
L29 113 SEA FILE=HCAPLUS ABB=ON L26 OR L28
L34 2 SEA FILE=WPIDS ABB=ON L29 AND (?BIFUNCTIONAL? OR ?SUPPORT?(3A)
?CARBON? OR ?HYDROFLUOROPROPANE?)

=> d ibib abs l34 1-2

L34 ANSWER 1 OF 2 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2004-560332 [54] WPIDS
DOC. NO. CPI: C2004-204757
TITLE: Oxidation of feed component with air, useful for direct
contacting of hydrogen and oxygen to yield hydrogen
peroxide, involves dissolving feed component and air in
reaction solvent consisting of fluorocarbons.
DERWENT CLASS: E19 H04
INVENTOR(S): PUJADO, P R
PATENT ASSIGNEE(S): (UNVO) UOP LLC
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 6768013	B1	20040727	(200454)*		8

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 6768013	B1	US 2001-882519	20010615

PRIORITY APPLN. INFO: US 2001-882519 20010615

AN 2004-560332 [54] WPIDS

AB US 6768013 B UPAB: 20040823

NOVELTY - A feed component is oxidized with air by dissolving feed component and air in a reaction solvent (12) consisting of fluorocarbons, chlorofluorocarbons, **hydrochlorofluorocarbons**, and/or **fluorine**-substituted oxygenated hydrocarbons; and reacting the feed component and air in the presence of a solid oxidation **catalyst**, to yield an oxidized product soluble in product solvent (14) compared to reaction solvent.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a process for producing hydrogen peroxide by dissolving hydrogen and oxygen in the reaction solvent; reacting the dissolved hydrogen and oxygen in reaction zone in the presence of a solid oxidation **catalyst** to yield hydrogen peroxide; extracting hydrogen peroxide into product solvent that is soluble; separating hydrogen peroxide and residual amounts of the

reaction solvent in the product solvent to yield regenerated product solvent, **purified** hydrogen peroxide, and recovered solvent; and recycling the recovered reaction solvent to the reaction zone. Oxidation conditions are at 0-90 deg. C, 1-200 atm, 50-50000/hour, and mechanical agitation.

USE - For oxidation of feed component with air, useful for direct contacting of hydrogen and oxygen to yield hydrogen peroxide (claimed).

ADVANTAGE - The novel method overcomes inherent explosion hazards associated with directly mixing reactants in the gas phase. It is simpler and cheaper.

DESCRIPTION OF DRAWING(S) - The figure shows a reaction system for use in the above oxidation process.

Product 9

Reactor 10

Reaction solvent 12

Product solvent 14

Stirrer 20

Control vessel 36

Dwg.1/1

L34 ANSWER 2 OF 2 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN

ACCESSION NUMBER: 1994-048736 [06] WPIDS

DOC. NO. CPI: C1994-022024

TITLE: **Purificn.** of penta fluoroethane - comprises contacting with hydrogen at an elevated temperature in the presence of a **palladium-on-carbon** catalyst..

DERWENT CLASS: E16

INVENTOR(S): GOODYEAR, G; SHIELDS, C J

PATENT ASSIGNEE(S): (ICIL) IMPERIAL CHEM IND PLC

COUNTRY COUNT: 20

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9402439	A1	19940203	(199406)*	EN	19
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE					
W: CA JP US					
EP 651733	A1	19950510	(199523)	EN	
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE					
JP 07509238	W	19951012	(199549)		5
US 6340781	B1	20020122	(200208)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9402439	A1	WO 1993-GB1518	19930720
EP 651733	A1	EP 1993-917873	19930720
		WO 1993-GB1518	19930720
JP 07509238	W	WO 1993-GB1518	19930720
		JP 1994-504276	19930720
US 6340781	B1	WO 1993-GB1518	19930720
		US 1995-374669	19950403

FILING DETAILS:

PATENT NO	KIND	PATENT NO
EP 651733	A1 Based on	WO 9402439
JP 07509238	W Based on	WO 9402439

US 6340781

B1 Based on

WO 9402439

PRIORITY APPLN. INFO: GB 1992-15562 19920722; GB
1992-15563 19920722

AN 1994-048736 [06] WPIDS

AB WO 9402439 A UPAB: 19940322

A process for the removal of Cl-containing **impurities** and/or **hydrofluoroalkane impurities** from pentafluoroethane comprises contacting the pentafluoroethane with H₂ at elevated temps. in the presence of a **hydrogenation** to convert the **impurities** to **hydrofluoroalkanes** and/or hydrocarbons.

The process is carried out at a temperature of 350-600 deg.C and under superatmospheric pressure. The H₂ is present in stoichiometric excess based on the **impurity** or **impurities** to be **hydrogenated**. The prods. of **hydrogenation** of the **impurities** are separated from the pentafluoroethane. The **impure** pentafluoroethane comprises a major proportion of pentafluoroethane, and chloropentafluoroethane as an **impurity**. The catalyst comprises a Gp. VIIIA metal and is carried on an alumina or **carbon support**.

USE/ADVANTAGE - The process is used for the **purification** of pentafluoroethane. The process is simple to use.
Dwg.0/0

=> d que stat 145

L18 336759 SEA FILE=HCAPLUS ABB=ON (?HYDROGENAT? OR ?HYDROGENOLYSIS? OR
?HYDRODECHLORINAT?)

L19 17947 SEA FILE=HCAPLUS ABB=ON L18 AND (?HALOCARBON? OR ?HALOHYDROCAR
BON? OR ?HYDROCHLOROFLUOROCARBON? OR ?ALKANE? OR ?ALKENE?)

L20 589 SEA FILE=HCAPLUS ABB=ON L19 AND (?PURIF? OR ?IMPUR?)

L21 28 SEA FILE=HCAPLUS ABB=ON L20 AND (?OLEFIN?(3A)?IMPUR?)

L22 589 SEA FILE=HCAPLUS ABB=ON L20 OR L21

L23 2 SEA FILE=REGISTRY ABB=ON (GOLD OR PALLADIUM OR METAL)/CN

L24 2 SEA FILE=REGISTRY ABB=ON (GOLD OR PALLADIUM OR METALS)/CN

L26 90 SEA FILE=HCAPLUS ABB=ON L22 AND (L23 OR ?CHLORINE? OR
?FLUORINE?) (L)?CATAL?

L28 110 SEA FILE=HCAPLUS ABB=ON L22 AND (L24 OR ?BIFUNCT? OR ?GOLD?
OR ?PALLADIUM?)

L29 113 SEA FILE=HCAPLUS ABB=ON L26 OR L28

L30 14 SEA FILE=HCAPLUS ABB=ON L29 AND (?BIFUNCTIONAL? OR ?SUPPORT?(3
A)?CARBON? OR ?HYDROFLUOROPROPANE?)

L35 1763 SEA FILE=USPATFULL ABB=ON L30 AND (PRD<20031211 OR PD<20031211
)

L36 2 SEA FILE=USPATFULL ABB=ON L35 AND ?HYDROFLUOROPROPANE?

L37 1762 SEA FILE=USPATFULL ABB=ON L35 AND (?BIFUNCTIONAL? OR ?SUPPORT?
(3A)?CARBON?)

L39 154 SEA FILE=USPATFULL ABB=ON L37 AND ?SUPPORT?(W)?CARBON?

L41 154 SEA FILE=USPATFULL ABB=ON L39 AND ?PROCESS?

L42 63 SEA FILE=USPATFULL ABB=ON L41 AND ?PURIF?

L43 63 SEA FILE=USPATFULL ABB=ON L42 AND (?METAL? OR L24 OR ?GOLD?
OR ?PALLADIUM?)

L44 5 SEA FILE=USPATFULL ABB=ON L43 AND ?PURIF?(5A)(?OLEFIN? OR
?CHLORIN?)

L45 7 SEA FILE=USPATFULL ABB=ON L36 OR L44

=> d ibib abs 145 1-7

L45 ANSWER 1 OF 7 USPATFULL on STN

ACCESSION NUMBER: 2005:38396 USPATFULL

TITLE: Preparation of preparing substituted indanones

INVENTOR(S): Bingel, Carsten, Kriftel, GERMANY, FEDERAL REPUBLIC OF
Goeres, Markus, Eschborn, GERMANY, FEDERAL REPUBLIC OF
Fraaije, Volker, Frankfurt, GERMANY, FEDERAL REPUBLIC
OF
Winter, Andreas, Glashutten, GERMANY, FEDERAL REPUBLIC
OF

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005033076	A1	20050210
	US 7038070	B2	20060502
APPLICATION INFO.:	US 2004-936046	A1	20040909 (10)
RELATED APPLN. INFO.:	Division of Ser. No. US 2002-199081, filed on 22 Jul 2002, PENDING		

	NUMBER	DATE	
PRIORITY INFORMATION:	DE 1997-19709402	19970307	<--
	DE 1997-19713546	19970402	<--
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	Herbert B. Keil, KEIL & WEINKAUF, 1350 Connecticut Ave., N.W., Washington, DC, 20036		
NUMBER OF CLAIMS:	8		

EXEMPLARY CLAIM: CLM-01-13

LINE COUNT: 4934

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A **process** for the preparation of indanones of the formula II from indanones of the formula I or of indanones of the formula IIa from indanones of the formula Ia ##STR1##

comprises reacting an indanone of the formula I or Ia with a coupling component.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L45 ANSWER 2 OF 7 USPATFULL on STN

ACCESSION NUMBER: 2004:216257 USPATFULL

TITLE: Process for **purifying hydrofluoropropanes**

INVENTOR(S): Rao, Velliyur Nott Mallikarjuna, Wilmington, DE, UNITED STATES

Sievert, Allen C., Elkton, MD, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004167366	A1	20040826
APPLICATION INFO.:	US 2003-734946	A1	20031211 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2002-433295P	20021213 (60) <--
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	E I DU PONT DE NEMOURS AND COMPANY, LEGAL PATENT RECORDS CENTER, BARLEY MILL PLAZA 25/1128, 4417 LANCASTER PIKE, WILMINGTON, DE, 19805	
NUMBER OF CLAIMS:	10	
EXEMPLARY CLAIM:	1	
LINE COUNT:	839	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A process is disclosed for **purifying** a **hydrofluoropropane** of undesirable C.sub.2-C.sub.4 olefinic and C.sub.1-C.sub.4 saturated chlorinated **impurities**, comprising the steps of: contacting a first mixture of **hydrofluoropropane**, **olefinic impurity** and saturated chlorinated **impurity** with hydrogen and hydrogen fluoride concurrently in the presence of a **bifunctional** catalyst, for example an alloy of **gold** and **palladium** supported on **carbon**, capable of catalyzing **hydrogenation** and fluorination. During the contacting step, **olefinic impurity** is converted to saturated **hydrogenated** derivative and/or saturated hydrofluorinated derivativ, and saturated chlorinated **impurity** is converted to a saturated **hydrodechlorinated** derivative and/or saturated fluorinated derivative. The **hydrofluoropropane** thus formed is substantially free of both the **olefinic** and saturated chlorinated **impurities** and may be used as obtained or subject to further **purification** steps such as distillation to remove the process derivatives (e.g., **hydrogenation**, **hydrodechlorination** and hydrofluorination derivatives) from the **hydrofluoropropane**.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L45 ANSWER 3 OF 7 USPATFULL on STN

ACCESSION NUMBER: 2004:79025 USPATFULL
TITLE: Substituted tricyclics
INVENTOR(S): Bach, Nicholas James, Indianapolis, IN, United States
Draheim, Susan Elizabeth, Indianapolis, IN, United States
Dillard, Robert Delane, Zionsville, IN, United States
Mihelich, Edward David, Carmel, IN, United States
Sawyer, Jason Scott, Indianapolis, IN, United States
Beight, Douglas Wade, Frankfort, IN, United States
Phillips, Michael LeRoy, Indianapolis, IN, United States
Suarez, Tulio, Greenwood, IN, United States
Sall, Daniel Jon, Greenwood, IN, United States
Bastian, Jolie Anne, Beech Grove, IN, United States
Denney, Michael Lyle, Franklin, IN, United States
Hite, Gary Alan, Indianapolis, IN, United States
Kinnick, Michael Dean, Indianapolis, IN, United States
Vasileff, Robert Theodore, Indianapolis, IN, United States
Morin, Jr., John Michael, Brownsburg, IN, United States
Lin, Ho-Shen, Indianapolis, IN, United States
Richett, Michael Enrico, Indianapolis, IN, United States
Harper, Richard Waltz, Indianapolis, IN, United States
McGill, III, John McNeill, Greenwood, IN, United States
Anderson, Benjamin Alan, Zionsville, IN, United States
Harn, Nancy Kay, Indianapolis, IN, United States
Loncharich, Richard James, Carmel, IN, United States
Schevitz, Richard Walter, Indianapolis, IN, United States
PATENT ASSIGNEE(S): Eli Lilly and Company, Indianapolis, IN, United States
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6713645	B1	20040330
APPLICATION INFO.:	US 2000-688106		20001013 (9)
RELATED APPLN. INFO.:	Division of Ser. No. US 1998-63066, filed on 21 Apr 1998, now patented, Pat. No. US 6177440 Continuation-in-part of Ser. No. US 1997-959477, filed on 28 Oct 1997, now abandoned		

	NUMBER	DATE	
PRIORITY INFORMATION:	US 1996-29849P	19961030 (60)	<--
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Seaman, D. Margaret		
LEGAL REPRESENTATIVE:	Ginah, Francis O., Palmberg, Arleen		
NUMBER OF CLAIMS:	2		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)		
LINE COUNT:	15556		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A class of novel tricyclics is disclosed together with the use of such compounds for inhibiting sPLA.sub.2 mediated release of fatty acids for treatment of conditions such as septic shock.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L45 ANSWER 4 OF 7 USPATFULL on STN

ACCESSION NUMBER: 2003:225198 USPATFULL

TITLE: Removal of (hydro)**haloalkene impurities** from product streams

INVENTOR(S): Corr, Stuart, Warrington, UNITED KINGDOM
McCarthy, John Charles, Warrington, UNITED KINGDOM

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2003157009	A1	20030821	<--
	US 7084315	B2	20060801	
APPLICATION INFO.:	US 2003-258998	A1	20030218	(10)
	WO 2001-GB1920		20010502	

	NUMBER	DATE	
PRIORITY INFORMATION:	GB 2000-10614	20000504	<--
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	COOK, ALEX, MCFARRON, MANZO, CUMMINGS & MEHLER LTD, SUITE 2850, 200 WEST ADAMS STREET, CHICAGO, IL, 60606		
NUMBER OF CLAIMS:	22		
EXEMPLARY CLAIM:	1		
LINE COUNT:	479		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A process for removing a (hydro)**haloalkene impurity** from a product stream containing that **impurity** and a desired compound is described. The process comprises contacting the product stream with a solid adsorbent comprising pores having openings which have a size across their largest dimension in the range of from about 7 Å to about 10 Å. The process is particularly suited to the removal of (hydro)halopropene **impurities** from saturated hydrofluorocarbons such as a tetrafluoroethane, a pentafluoropropane, a hexafluoropropane or a heptafluoropropane.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L45 ANSWER 5 OF 7 USPATFULL on STN

ACCESSION NUMBER: 2003:11341 USPATFULL

TITLE: Preparation of preparing substituted indanones

INVENTOR(S): Bingel, Carsten, Krißtel, GERMANY, FEDERAL REPUBLIC OF
Goeres, Markus, Eschborn, GERMANY, FEDERAL REPUBLIC OF
Fraaije, Volker, Frankfurt, GERMANY, FEDERAL REPUBLIC OF
Winter, Andreas, Glashütten, GERMANY, FEDERAL REPUBLIC OF

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2003009046	A1	20030109	<--
	US 6963017	B2	20051108	
APPLICATION INFO.:	US 2002-199081	A1	20020722	(10)
RELATED APPLN. INFO.:	Division of Ser. No. US 1999-380396, filed on 1 Sep 1999, PENDING A 371 of International Ser. No. WO 1998-EP1232, filed on 5 Mar 1998, UNKNOWN			

NUMBER	DATE
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PRIORITY INFORMATION: DE 1997-19709402 19970307 <--
DE 1997-19713546 19970402 <--
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: KEIL & WEINKAUF, 1350 CONNECTICUT AVENUE, N.W.,
WASHINGTON, DC, 20036
NUMBER OF CLAIMS: 13
EXEMPLARY CLAIM: 1
LINE COUNT: 5276
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A **process** for the preparation of indanones of the formula II
from indanones of the formula I or of indanones of the formula IIa from
indanones of the formula Ia ##STR1##

comprises reacting an indanone of the formula I or Ia with a coupling
component.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L45 ANSWER 6 OF 7 USPATFULL on STN

ACCESSION NUMBER: 2001:10902 USPATFULL
TITLE: Substituted tricyclics
INVENTOR(S): Bach, Nicholas James, Indianapolis, IN, United States
Draheim, Susan Elizabeth, Indianapolis, IN, United States
Dillard, Robert Delane, Zionsville, IN, United States
Mihelich, Edward David, Carmel, IN, United States
Sawyer, Jason Scott, Indianapolis, IN, United States
Beight, Douglas Wade, Frankfort, IN, United States
Phillips, Michael LeRoy, Indianapolis, IN, United States
Suarez, Tulio, Greenwood, IN, United States
Sall, Daniel Jon, Greenwood, IN, United States
Bastian, Jolie Anne, Beech Grove, IN, United States
Denney, Michael Lyle, Franklin, IN, United States
Hite, Gary Alan, Indianapolis, IN, United States
Kinnick, Michael Dean, Indianapolis, IN, United States
Vasileff, Robert Theodore, Indianapolis, IN, United States
Morin, Jr., John Michael, Brownsburg, IN, United States
Lin, Ho-Shen, Indianapolis, IN, United States
Richett, Michael Enrico, Indianapolis, IN, United States
Harper, Richard Waltz, Indianapolis, IN, United States
McGill, III, John McNeill, Greenwood, IN, United States
Anderson, Benjamin Alan, Zionsville, IN, United States
Harn, Nancy Kay, Indianapolis, IN, United States
Loncharich, Richard James, Carmel, IN, United States
Schevitz, Richard Walter, Indianapolis, IN, United States
PATENT ASSIGNEE(S): Eli Lilly and Company, Indianapolis, IN, United States
(U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6177440	B1	20010123	<--
APPLICATION INFO.:	US 1998-63066		19980421	(9)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1997-959477, filed on 28 Oct 1997			

	NUMBER	DATE	
	-----	-----	
PRIORITY INFORMATION:	US 1996-29849P	19961030	(60) <--
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Seaman, D. Margaret		
LEGAL REPRESENTATIVE:	Palmberg, Arleen		
NUMBER OF CLAIMS:	32		
EXEMPLARY CLAIM:	1		
LINE COUNT:	16374		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A class of novel tricyclics is disclosed together with the use of such compounds for inhibiting sPLA.sub.2 mediated release of fatty acids for treatment of conditions such as septic shock.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L45 ANSWER 7 OF 7 USPATFULL on STN

ACCESSION NUMBER: 80:56391 USPATFULL
 TITLE: High activity catalyst for the polymerization of alpha-olefins
 INVENTOR(S): Hoff, Glen R., Naperville, IL, United States
 Fotis, Peter, Highland, IN, United States
 PATENT ASSIGNEE(S): Standard Oil Company (Indiana), Chicago, IL, United States (U.S. corporation)

	NUMBER	KIND	DATE	
	-----	-----	-----	
PATENT INFORMATION:	US 4233182		19801111	<--
APPLICATION INFO.:	US 1978-973108		19781226	(5)
DOCUMENT TYPE:	Utility			
FILE SEGMENT:	Granted			
PRIMARY EXAMINER:	Garvin, Patrick			
LEGAL REPRESENTATIVE:	Hensley, Stephen L., McClain, William T., Magidson, William H.			
NUMBER OF CLAIMS:	45			
EXEMPLARY CLAIM:	1			
LINE COUNT:	1988			

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB High activity alpha-olefin polymerization catalysts comprising an **organometallic** promoter and a component prepared from at least one compound of a Group IVB, VB, or VIB **metal**, at least one support material which is a divalent **metal** salt of a phosphorus acid ester having at least one phosphorous acid ester group bonded to **metal** through oxygen or sulfur, and at least one alkylaluminum halide.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> d ibib abs ind 113 1-5

L13 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2006:469480 HCAPLUS
 DOCUMENT NUMBER: 144:490632
 TITLE: Processes for production and purification of
hydrofluoroolefins
 INVENTOR(S): Miller, Ralph Newton; Nappa, Mario Joseph; Rao,
Velliur Nott Mallikarjuna; Sievert, Allen
Capron
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 27 pp., Cont.-in-part of U.S.
 Ser. No. 259,901.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 3
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2006106263	A1	20060518	US 2005-264183	20051101
US 2006094911	A1	20060504	US 2005-259901	20051027
PRIORITY APPLN. INFO.:			US 2004-623210P	P 20041029
			US 2005-259901	A2 20051027

OTHER SOURCE(S): CASREACT 144:490632

AB **Hydrofluoroolefins** are produced by dehydrofluorination of **hydrofluorocarbons** containing ≥ 1 H and ≥ 1 F on adjacent carbons, with the product mixture containing ≥ 1 of the **hydrofluoroolefin** and unreacted **hydrofluorocarbon** as an azeotrope with HF. The product mixts. are separated by distilling off the azeotropic or near-azeotropic mixture containing HF and **hydrofluoroolefins** and distilling this mixture in 2 steps at different pressures to sep. the components.

INCL 570155000

CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
 Section cross-reference(s): 23

ST **hydrofluoroolefin** manuf dehydrofluorination
hydrofluorocarbon

IT Alkenes, preparation
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (fluoro; production and purification of **hydrofluoroolefins** from dehydrofluorination of **hydrofluorocarbons** with azeotropic distillation)

IT Hydrocarbons, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (fluoro; production and purification of **hydrofluoroolefins** from dehydrofluorination of **hydrofluorocarbons** with azeotropic distillation)

IT Dehydrofluorination
 (production and purification of **hydrofluoroolefins** from dehydrofluorination of **hydrofluorocarbons** with azeotropic distillation)

IT 355-95-3P, 4,4,5,5,6,6,6-Heptafluoro-2-hexene 374-27-6P,
 3,3,4,4,4-Pentafluoro-1-butene 374-31-2P, 2,3,3,4,4-Pentafluoro-1-
 cyclobutene 374-39-0P, 2,3,3,4,4,4-Hexafluoro-1-butene 382-10-5P,
 1,1,1-Trifluoro-2-(trifluoromethyl)-2-propene 407-60-3P,
 1,1,1,4,4,4-Hexafluoro-2-butene 677-21-4P, 3,3,3-Trifluoropropene
 754-12-1P, 2,3,3,3-Tetrafluoro-1-propene 760-42-9P, 1,1,1,2,4,4,4-
 Heptafluoro-2-butene 777-97-9P, 2,3,3,4,4,5,5,6,6-Nonafluoro-1-

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cyclohexene 1547-26-8P, 2,3,3,4,4,5,5-Heptafluoro-1-pentene
 1645-83-6P, 1,3,3,3-Tetrafluoro-1-propene 1892-03-1P,
 2,3,3,4,4,5,5-Heptafluoro-1-cyclopentene 2252-83-7P,
 1,2,3,3,3-Pentafluoropropene 2252-99-5P, 1,1,2,4,4-Pentafluoro-2-butene
 2714-31-0P, 1,3,3,3-Tetrafluoro-2-(trifluoromethyl)-1-propene
 3932-66-9P, 1,4,4-Trifluoro-1-cyclobutene 7125-86-2P,
 1,2,3,3-Tetrafluoro-1-propene 17997-56-7P, 1,1,2,3,4,4-Hexafluoro-2-
 butene 22692-37-1P, 1,1,1,4,4-Hexafluoro-3-(trifluoromethyl)-2-butene
 26981-59-9P, 3,3-Difluoro-2-(difluoromethyl)-1-propene 73401-37-3P,
 1,1,1,3,4,4,5,5,5-Nonafluoro-2-pentene 74728-73-7P, 1,1,1,2-Tetrafluoro-
 2-butene 80436-67-5P, 1,1,1,3,4,5,5,5-Octafluoro-2-(trifluoromethyl)-2-
 pentene 83227-57-0P, 1,2,3,3,4,4,4-Heptafluoro-1-butene 86154-61-2P,
 1,1,1,2,4,4,5,5,5-Nonafluoro-2-pentene 86563-86-2P, 1,1,1,2,2,5,5,6,6,6-
 Decafluoro-3-hexene 90277-94-4P, 1,1,1,4,4,5,5,5-Octafluoro-2-
 (trifluoromethyl)-2-pentene 115413-08-6P, 1,1,1-Trifluoro-2-
 (trifluoromethyl)-2-pentene 116342-01-9P, 1,1,1,2,3,4,4-Heptafluoro-2-
 butene 119450-86-1P, 1,1,2,3,4-Pentafluoro-2-butene 149632-58-6P,
 1,1,1,3,4,4,5,5,6,6,7,7,7-Tridecafluoro-2-heptene 149632-59-7P,
 1,1,1,2,4,4,5,5,6,6,7,7,7-Tridecafluoro-2-heptene 149632-62-2P,
 1,1,1,2,2,4,5,5,6,6,7,7,8,8,8-Pentadecafluoro-3-octene 149632-63-3P,
 1,1,1,2,2,3,5,5,6,6,7,7,8,8,8-Pentadecafluoro-3-octene 151575-96-1P,
 1,1,1,3,4,5,5,5-Octafluoro-4-(trifluoromethyl)-2-pentene 152267-17-9P,
 1,1,1,4,4,5,5,5-Octafluoro-2-pentene 158664-13-2P, 2,3,3-
 Trifluoropropene 175400-98-3P, 1,1,1,2,4-Pentafluoro-2-butene
 206113-45-3P, 1,1,1,4,4,5,5,6,6-Decafluoro-2-hexene 343627-57-6P,
 1,1,2,5,5,6,6,6-Nonafluoro-2-hexene 403855-48-1P, 1,1,1,2,3-
 Pentafluoro-2-butene 721945-75-1P, 1,2,3-Trifluoropropene
 721945-76-2P, 1,3,3-Trifluoropropene 721946-02-7P, 2,4,4,4-Tetrafluoro-1-
 butene 721946-08-3P, 1,1,4,4,4-Pentafluoro-1-butene 721946-10-7P,
 2,3,3,4,4-Pentafluoro-1-butene 721946-11-8P, 1,2,3,3,4,4-Hexafluoro-1-
 butene 721946-28-7P, 1,1,1,3-Tetrafluoro-2-butene 721946-29-8P,
 1,1,1,4-Tetrafluoro-2-butene 721946-33-4P, 1,1,1,3,4-Pentafluoro-2-
 butene 721946-34-5P, 1,1,1,4,4-Pentafluoro-2-butene 721946-35-6P,
 1,1,1,2,3,4,4-Hexafluoro-2-butene 721946-36-7P, 1,1,1,2,4,4-Hexafluoro-2-
 butene 721946-37-8P, 1,1,1,3,4,4-Hexafluoro-2-butene 887111-41-3P,
 1,1,1,3,5,5,5-Heptafluoro-2-pentene 887111-42-4P, 1,1,1,2,2,3,5,5,6,6,6-
 Undecafluoro-3-hexene 887111-43-5P, 2,3,3,4,4,5,5,6,6,6-Decafluoro-1-
 hexene 887111-44-6P, 1,1,1,3,4,4,6,6,6-Nonafluoro-2-hexene
 887111-47-9P, 1,1,1,2,2,3,3,4,6,6,7,7,8,8,8-Pentadecafluoro-4-octene
 887111-48-0P, 1,1,3,3-Tetrafluoro-2-(difluoromethyl)-2-propene
 887111-49-1P, 2-(Difluoromethyl)-1,3,3-trifluoro-1-propene 887111-50-4P,
 2-Fluoromethyl-3,3,3-trifluoro-1-propene 887111-51-5P,
 2,3,3,4,4,5,5,5-Octafluoro-1-pentene 887111-52-6P, 2,3,4,4,5,5-
 Hexafluoro-2-pentene 887111-53-7P, 3,4,4,5,5,5-Hexafluoro-2-pentene
 887111-54-8P, 1,1,2,4,4,4-Hexafluoro-3-(trifluoromethyl)-2-butene
 887111-55-9P, 3,4,4,5,5,6,6,6-Octafluoro-2-hexene 887111-56-0P,
 3,4,5,5,5-Pentafluoro-4-(trifluoromethyl)-2-pentene 887111-57-1P,
 1,1,1,2,4,5,5,5-Octafluoro-4-(trifluoromethyl)-2-pentene 887111-58-2P,
 1,1,1,2,5,5,5-Heptafluoro-4-(trifluoromethyl)-2-pentene 887111-59-3P,
 3-Methyl-1,1,1-trifluoro-2-(trifluoromethyl)-2-butene 887111-60-6P,
 3,4,4,5,5,5-Hexafluoro-2-methyl-2-pentene 887111-61-7P,
 1,1,1,2,2,5,5,6,6,7,7,7-Dodecafluoro-3-heptene 887111-62-8P,
 1,1,1,3,3,4,4,6,6,7,7,7-Dodecafluoro-2-heptene 887111-63-9P,
 3,4,4,5,5,6,6,7,7,7-Decafluoro-2-heptene 887111-64-0P,
 4,5,5,6,6,7,7,7-Octafluoro-3-heptene 887111-65-1P, 2-Methyl-
 3,4,4,5,5,6,6,6-octafluoro-2-hexene
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (production and purification of **hydrofluoroolefins** from
 dehydrofluorination of **hydrofluorocarbons** with azeotropic
 distillation)

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- IT 5528-43-8, cis-1,2,3,3,3-Pentafluoro-1-propene 7664-39-3, Hydrogen fluoride, properties 22146-75-4, cis-1,1,1,3,4,4,5,5,5-Nonafluoro-2-pentene 29118-24-9, trans-1,3,3,3-Tetrafluoro-1-propene 142347-09-9, 1,1,1,2,2,3,4,5,5,6,6,7,7,7-Tetradecafluoroheptane
 RL: PRP (Properties)
 (production and purification of **hydrofluoroolefins** from dehydrofluorination of **hydrofluorocarbons** with azeotropic distillation)
- IT 690-27-7P, 1,1,3,3,3-Pentafluoro-1-propene 83227-58-1P, cis-1,1,1,2,4,4,5,5,5-Nonafluoro-2-pentene 83227-59-2P, cis-1,1,1,2,2,4,5,5,6,6,6-Undecafluoro-3-heptene 887111-66-2P, cis-1,1,1,2,2,3,5,5,6,6,6-Undecafluoro-3-heptene
 RL: PUR (Purification or recovery); PREP (Preparation)
 (production and purification of **hydrofluoroolefins** from dehydrofluorination of **hydrofluorocarbons** with azeotropic distillation)
- IT 374-12-9, 1,1,2,2-Tetrafluorocyclobutane 377-95-7, 1,2,3,3,4,4-Hexafluorocyclobutane 382-20-7, 1,1,3,3,3-Pentafluoro-2-(trifluoromethyl)propane 392-45-0, 1,1,2,3,4,4-Hexafluorobutane 406-58-6, 1,1,1,3,3-Pentafluorobutane 407-59-0, 1,1,1,4,4,4-Hexafluorobutane 421-48-7, 1,1,1,2-Tetrafluoropropane 431-63-0, 1,1,1,2,3,3-Hexafluoropropane 460-36-6, 1,1,1,3-Tetrafluoropropane 460-73-1, 1,1,1,3,3-Pentafluoropropane 662-00-0, 1,1,1,2,2,3,3-Heptafluorobutane 662-35-1, 1,1,1,2,2,3,3,4-Octafluorobutane 677-56-5, 1,1,1,2,2,3-Hexafluoropropane 679-86-7, 1,1,2,2,3-Pentafluoropropane 690-39-1, HFC-236fa 754-68-7, 1,1,1,2,2,3,3-Heptafluoropentane 755-45-3, 1,1,1,2,2,3,3,5,5,5-Decafluoropentane 813-75-2, 1,2,2,3-Tetrafluoropropane 828-35-3, 1,2,3,3,4,4,5,5-Octafluorocyclopentane 1422-49-7, 1,1,1,3,3,4,4,6,6,6-Decafluorohexane 1814-88-6, 1,1,1,2,2-Pentafluoropropane 1840-18-2, 1,1,1,2,4,4,4-Heptafluoro-2-(trifluoromethyl)butane 2367-86-4, 1,2,3,3,4,4,5,5,6,6-Decafluorocyclohexane 2794-16-3, 1,1,1,3-Tetrafluoro-2-(trifluoromethyl)propane 2924-29-0, 1,1,1,2,2,4,4,4-Octafluorobutane 24270-68-6, 1,1,2,3-Tetrafluoropropane 32864-57-6, 2-(Difluoromethyl)-1,1,3-trifluoropropane 35230-11-6, 1,1,1,2,3,3,4,4-Octafluorobutane 35709-17-2, 1,1,1,2,2,3,3,4,5,6,6,7,7,8,8,8-Hexadecafluorooctane 37826-35-0, 1,1,1,2,2-Pentafluorobutane 38436-17-8, 1,1,1,2,2,3,3,4,4,-Nonafluorohexane 40723-63-5, 1,1,2,2-Tetrafluoropropane 40723-64-6, 1,1,2,2,3,3,4,4-Octafluoropentane 41004-41-5, 1,1,1,3,4,4,4-Heptafluoro-2-(trifluoromethyl)butane 53005-35-9, 1,1,1,2,3,3,4-Heptafluorobutane 54572-23-5, 1,1,2,2,3,3-Hexafluorocyclobutane 65781-18-2, 1,1,1,2-Tetrafluoro-2-(trifluoromethyl)propane 65781-19-3, 1,2,3,3,3-Pentafluoro-2-(trifluoromethyl)propane 65781-23-9, 2-(Difluoromethyl)-1,1,2-trifluoropropane 65781-24-0, 2-(Difluoromethyl)-1,1,2,3,3-pentafluoropropane 66794-30-7, 1,1,3,3-Tetrafluoropropane 71040-09-0, 1,1,1,2,2,3,4,5,5,6,6,6-Dodecafluorohexane 71127-07-6, 1,1,1,2,3,4,4-Heptafluoro-2-(trifluoromethyl)butane 75995-72-1, 1,1,1,2,3,4,4,4-Octafluorobutane 76523-97-2, 1,1,1,2,3,3-Hexafluorobutane 76523-98-3, 1,1,1,3,4,4-Hexafluorobutane 76546-55-9, 1,1,1,3,3,4-Hexafluorobutane 85720-78-1, 1,1,1,2,3,4,5,5-Nonafluoro-2-(trifluoromethyl)pentane 86884-16-4, 1,1,1,2,4,4,4-Heptafluorobutane 90278-00-5, 1,1,1,3,4,4,5,5,5-Nonafluoro-2-(trifluoromethyl)pentane 90278-01-6, 1,1,1,4,4,5,5,5-Octafluoro-2-(trifluoromethyl)pentane 95576-21-9, 1,1,1,2,2,4,4,5,5,5-Decafluoropentane 95576-25-3, 1,1,1,2,2,5,5,6,6,6-Decafluorohexane 102526-10-3, 1,1,1,3,3,5,5,5-Octafluoropentane 119450-61-2, 1,1,2,2,3,3,4-Heptafluorobutane 119450-64-5, 1,1,2,3,3,4,4-Heptafluorobutane 119450-65-6, 1,1,1,3,3,4,4-Heptafluorobutane 119450-66-7, 1,1,2,2,3,3-Hexafluorobutane 119450-67-8, 1,1,1,2,3,4-Hexafluorobutane 119450-68-9,

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 1,1,3,3-tetrafluoropropane 141993-31-9, 1,1,1,2,2,3,5,5,5-
 Nonafluoropentane 141993-32-0, 1,1,1,2,4,4,5,5,5-Nonafluoropentane
 142347-10-2, 1,1,1,2,3,4,4,5,5,6,6,7,7,7-Tetradecafluoroheptane
 142347-12-4, 1,1,1,2,2,3,3,4,6,6,6,6-Undecafluorohexane 142347-13-5,
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 1,1,1,2,2,3,5,5,6,6,7,7,7-Tridecafluoroheptane 142347-18-0,
 1,1,1,2,2,3,3,4,6,6,7,7,7-Tridecafluoroheptane 148565-53-1,
 1,1,1,2,2,3,3,4,4,5,6-Undecafluorohexane 151868-61-0,
 1,1,1,2,3,4,4-Heptafluorobutane 154381-45-0, 1,1,1,2-Tetrafluoro-2-
 (trifluoromethyl)pentane 154381-46-1, 1,1,1,2,2,3,3-Heptafluoro-4-
 methylpentane 154381-47-2, 3-Methyl-1,1,1,2-tetrafluoro-2-
 (trifluoromethyl)butane 154381-48-3, 1,1,1,2,3,3-Hexafluoro-2-
 (trifluoromethyl)pentane 154381-51-8, 1,1,1,2,2,3,3,4,4-
 Nonafluoroheptane 154381-52-9, 5-Methyl-1,1,1,2,2,3,3,4,4-
 nonafluorohexane 158118-01-5, 1,1,1,2,2,3,3,4,4-Nonafluoropentane
 158389-17-4, 1,1,1,2,2,3,3,5-Octafluorohexane 158421-88-6,
 1,1,1,2,4,4-Hexafluorobutane 161791-23-7, 1,1,1,2,4-Pentafluorobutane
 161791-24-8, 1,1,1,3,4-Pentafluorobutane 161791-30-6,
 2-Fluoromethyl-1,1,1,3-tetrafluoropropane 161791-32-8,
 1,1,1,2,2,3-Hexafluorobutane 161791-33-9, 1,1,1,2,2,4-Hexafluorobutane
 161791-36-2, 1,1,1,2,2,4,4-Heptafluorobutane 503189-10-4,
 1,1,1,2,2,3,3,4,4,5,5-Undecafluoroheptane 887111-45-7,
 1,1,1,2,2,3,4,5,5,6,6,7,7,8,8,8-Hexadecafluorooctane
 RL: RCT (Reactant); RACT (Reactant or reagent)

(production and purification of **hydrofluoroolefins** from
 dehydrofluorination of **hydrofluorocarbons** with azeotropic
 distillation)

L13 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:1156532 HCAPLUS

DOCUMENT NUMBER: 142:77136

TITLE: Fluoroketones, halo fluoroketones, and
 (fluoroalkoxy)fluoroketones as fire extinguishers and
 flame retardants for working fluids

INVENTOR(S): Nappa, Mario J.; Rao, Velliyur Nott
 Mallikarjuna; Sievert, Allen C.

PATENT ASSIGNEE(S): E.I. DuPont De Nemours and Company, USA

SOURCE: PCT Int. Appl., 27 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004112908	A2	20041229	WO 2004-US19878	20040618
WO 2004112908	A3	20050210		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
 CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
 LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
 NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
 TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

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RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
 SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
 SN, TD, TG

AU 2004249305	A1	20041229	AU 2004-249305	20040618
CA 2524384	AA	20041229	CA 2004-2524384	20040618
US 2005023007	A1	20050203	US 2004-871715	20040618
US 2005033095	A1	20050210	US 2004-871857	20040618
CN 1805917	A	20060719	CN 2004-80016815	20040618
CN 1809324	A	20060726	CN 2004-80016954	20040618

PRIORITY APPLN. INFO.: US 2003-479559P P 20030618
 WO 2004-US19878 W 20040618

OTHER SOURCE(S): MARPAT 142:77136

AB Fire extinguishers and flame retardants consist of a first fluoroketone, selected from (monobromo)perfluoroketones, (monohydro)(monobromo)perfluoroketones, (perfluoroalkoxy)(monobromo)perfluoroketones, (fluoroalkoxy)(monobromo)perfluoroketones, and (monochloro)(monobromo)perfluoroketones, mixed with a second, co-extinguishing agent, selected from **hydrofluorocarbons**, hydrochlorofluorocarbons, perfluorocarbons, perfluoroketones, perfluoropolyethers, **hydrofluoropolyethers**, **hydrofluoroethers**, chlorofluorocarbons, bromofluorocarbons, bromochlorofluorocarbons, hydrobromocarbons, iodofluorocarbons, and hydrobromofluorocarbons. The (perfluoroalkoxy)(monobromo)perfluoroketones have the general formula $R1C(:O)CF(CF_3)-O-R_2$, in which $R_1 = C1-3-(monobromo)perfluoroalkyl$, and $R_2 = C1-3-perfluoroalkyl$. The (fluoroalkoxy)(monobromo)perfluoroketones have the general formula $R1C(:O)-CX(CF_3)-OR_2$, in which $R_1 = C2-3-bromoperfluoroalkyl$, $R_2 = C1-3-alkyl$ or $fluoroalkyl$, and $X = H$ or F . When used as flame retardants for flammable working fluids, the fluoroketones are present at the 0.1-99 weight% concentration

IC ICM A62D001-00

CC 50-6 (Propellants and Explosives)

Section cross-reference(s): 21

ST fluoroketone perfluoroketone fire extinguisher flame retardant;
 fluoroalkyl fluoroketone fire extinguisher flame retardant

IT Ketones, uses

RL: TEM (Technical or engineered material use); USES (Uses)
 ((perfluoroalkoxy) halofluoro; fluoroketones, halofluoroketones, and (fluoroalkoxy)fluoroketones as fire extinguishers and flame retardants for working fluids)

IT Hydrocarbons, uses

RL: TEM (Technical or engineered material use); USES (Uses)
 (bromo, bromo chloro and bromo fluoro, co-extinguishers; fluoroketones, halofluoroketones, and (fluoroalkoxy)fluoroketones as fire extinguishers and flame retardants for working fluids)

IT Hydrocarbons, uses

RL: TEM (Technical or engineered material use); USES (Uses)
 (chlorofluorocarbons, co-extinguisher; fluoroketones, halofluoroketones, and (fluoroalkoxy)fluoroketones as fire extinguishers and flame retardants for working fluids)

IT Perfluorocarbons

RL: TEM (Technical or engineered material use); USES (Uses)
 (co-extinguisher; fluoroketones, halofluoroketones, and (fluoroalkoxy)fluoroketones as fire extinguishers and flame retardants for working fluids)

IT Polyethers, uses

RL: TEM (Technical or engineered material use); USES (Uses)
 (fluorine-containing, co-extinguisher; fluoroketones, halofluoroketones,

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- and (fluoroalkoxy)fluoroketones as fire extinguishers and flame retardants for working fluids)
- IT Hydrocarbons, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(fluoro, co-extinguisher; fluoroketones, halofluoroketones, and (fluoroalkoxy)fluoroketones as fire extinguishers and flame retardants for working fluids)
- IT Ketones, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(fluoro, α -halo, fire extinguishers; fluoroketones, halofluoroketones, and (fluoroalkoxy)fluoroketones as fire extinguishers and flame retardants for working fluids)
- IT Ethers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(fluoroalkyl, co-extinguisher; fluoroketones, halofluoroketones, and (fluoroalkoxy)fluoroketones as fire extinguishers and flame retardants for working fluids)
- IT Fire extinguishers
Fireproofing agents
(fluoroketones, halofluoroketones, and (fluoroalkoxy)fluoroketones as fire extinguishers and flame retardants for working fluids)
- IT Hydrocarbons, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(halo, halo fluoro; fluoroketones, halofluoroketones, and (fluoroalkoxy)fluoroketones as fire extinguishers and flame retardants for working fluids)
- IT Perfluoro compounds
RL: TEM (Technical or engineered material use); USES (Uses)
(ketones; fluoroketones, halofluoroketones, and (fluoroalkoxy)fluoroketones as fire extinguishers and flame retardants for working fluids)
- IT Polyethers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(perfluoro, co-extinguisher; fluoroketones, halofluoroketones, and (fluoroalkoxy)fluoroketones as fire extinguishers and flame retardants for working fluids)
- IT Ketones, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(perfluoro; fluoroketones, halofluoroketones, and (fluoroalkoxy)fluoroketones as fire extinguishers and flame retardants for working fluids)
- IT Fluoropolymers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polyether-, co-extinguisher; fluoroketones, halofluoroketones, and (fluoroalkoxy)fluoroketones as fire extinguishers and flame retardants for working fluids)
- IT Fluoropolymers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polyether-, perfluoro, co-extinguisher; fluoroketones, halofluoroketones, and (fluoroalkoxy)fluoroketones as fire extinguishers and flame retardants for working fluids)
- IT 360-89-4, 2-Perfluorobutene
RL: RCT (Reactant); RACT (Reactant or reagent)
(epoxidn. of; in synthesis of perfluoro-2-bromo-3-pentanone and perfluoro-3-bromo-2-pentanone)
- IT 813468-13-2P 813468-14-3P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(fire extinguishers; fluoroketones, halofluoroketones, and (fluoroalkoxy)fluoroketones as fire extinguishers and flame retardants

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for working fluids)

IT 813468-15-4 813468-16-5 813468-17-6 813468-18-7 813468-19-8
 813468-20-1 813468-21-2 813468-22-3 813468-23-4 813468-24-5
 813468-25-6 813468-26-7 813468-27-8 813468-28-9 813468-29-0
 813468-30-3 813468-31-4 813468-32-5 813468-33-6 813468-34-7
 813468-35-8 813468-36-9 813468-37-0 813468-38-1 813468-39-2
 813468-40-5 813468-41-6 813468-42-7 813468-43-8 813468-44-9
 813468-45-0 813468-46-1 813468-47-2 813468-48-3 813468-49-4
 813468-50-7 813468-51-8 813468-52-9 813468-53-0 813468-54-1
 813468-55-2 813468-56-3 813468-57-4 813468-58-5 813468-59-6
 813468-60-9 813468-61-0 813468-62-1 813468-63-2 813468-64-3
 813468-65-4 813468-66-5 813468-67-6 813468-68-7 813468-69-8
 813468-70-1 813468-71-2 813468-72-3 813468-73-4 813468-74-5
 813468-75-6 813468-76-7 813468-77-8 813468-78-9 813468-79-0

RL: TEM (Technical or engineered material use); USES (Uses)
 (fire extinguishers; fluoroketones, halofluoroketones, and
 (fluoroalkoxy)fluoroketones as fire extinguishers and flame retardants
 for working fluids)

IT 71917-15-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)

(synthesis and ring opening of; in synthesis of perfluoro-2-bromo-3-
 pentanone and perfluoro-3-bromo-2-pentanone)

L13 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:701855 HCAPLUS

DOCUMENT NUMBER: 141:227253

TITLE: Catalytic hydrogenation and fluorination process for
 purifying **hydrofluoropropanes**

INVENTOR(S): Rao, Velliyur Nott Mallikarjuna;
 Sievert, Allen C.

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 9 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004167366	A1	20040826	US 2003-734946	20031211
PRIORITY APPLN. INFO.:			US 2002-433295P	P 20021213
OTHER SOURCE(S):	MARPAT 141:227253			

AB A process is described for purifying a **hydrofluoropropane** of
 undesirable C2-4 olefinic and C1-4 saturated chlorinated impurities,
 comprising: contacting a first mixture of **hydrofluoropropane**,
 olefinic impurity and saturated chlorinated impurity with hydrogen and
 hydrogen fluoride concurrently in the presence of a bifunctional catalyst,
 for example an alloy of gold and palladium supported on carbon, capable of
 catalyzing hydrogenation and fluorination. During the contacting step,
 the olefinic impurity is converted into a saturated hydrogenated derivative
 and/or
 saturated hydrofluorinated derivative, and the saturated chlorinated impurity
 is
 converted into a saturated hydrodechlorinated derivative and/or a saturated
 fluorinated derivative The **hydrofluoropropane** thus formed is
 substantially free of both the olefinic and saturated chlorinated impurities
 and may be used as obtained or subjected to further purification steps.

IC ICM C07C017-38

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INCL 570177000

CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)

Section cross-reference(s): 23, 48, 67

ST **hydrofluoropropane** purifn catalytic hydrogenation fluorination

IT Alkenes, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(catalytic hydrogenation and fluorination process for purifying **hydrofluoropropanes** containing)

IT Transition metals, uses

RL: CAT (Catalyst use); USES (Uses)

(catalytic hydrogenation and fluorination process for purifying **hydrofluoropropanes** using)

IT Alkanes, preparation

RL: PEP (Physical, engineering or chemical process); PUR (Purification or recovery); PYP (Physical process); PREP (Preparation); PROC (Process)
(fluoro, **hydrofluoropropanes**; catalytic hydrogenation and fluorination process for purifying **hydrofluoropropanes**)

IT Fluorination

Hydrogenation

(hydrogenation and fluorination process for purifying **hydrofluoropropanes**)

IT Fluorination catalysts

Hydrogenation catalysts

(transition metals; catalytic hydrogenation and fluorination process for purifying **hydrofluoropropanes**)

IT 2804-50-4, CFC 1215xc

RL: RGT (Reagent); RACT (Reactant or reagent)

(CFC 1215xc, impurity; catalytic hydrogenation and fluorination process for purifying **hydrofluoropropanes**)

IT 7440-44-0, Activated carbon, uses

RL: CAT (Catalyst use); USES (Uses)

(activated, catalyst support; catalytic hydrogenation and fluorination process for purifying **hydrofluoropropanes**)

IT 1308-38-9, Chromium oxide (Cr2O3), uses 1344-28-1, Alumina, uses

RL: CAT (Catalyst use); USES (Uses)

(catalyst support; catalytic hydrogenation and fluorination process for purifying **hydrofluoropropanes**)

IT 7440-05-3, Palladium, uses 7440-06-4, Platinum, uses 7440-57-5, Gold, uses 11106-95-9

RL: CAT (Catalyst use); USES (Uses)

(catalytic hydrogenation and fluorination process for purifying **hydrofluoropropanes**)

IT 690-39-1P, HFC-236fa

RL: PEP (Physical, engineering or chemical process); PUR (Purification or recovery); PYP (Physical process); PREP (Preparation); PROC (Process)

(catalytic hydrogenation and fluorination process for purifying **hydrofluoropropanes**)

IT 690-27-7, HFC-1225zc

RL: RGT (Reagent); RACT (Reactant or reagent)

(impurity; catalytic hydrogenation and fluorination process for purifying **hydrofluoropropanes**)

IT 1333-74-0, Hydrogen, reactions 7664-39-3, Hydrogen fluoride, reactions

RL: RGT (Reagent); RACT (Reactant or reagent)

(in a catalytic hydrogenation and fluorination process for purifying **hydrofluoropropanes**)

L13 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1997:240623 HCAPLUS

DOCUMENT NUMBER: 126:226762

TITLE: Production of halogenated alkane by reaction of

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haloalkane with halogenated olefin and selected hydrochlorofluorocarbon compounds and azeotropes with HF

INVENTOR(S): Baker, Ralph Thomas; Miller, Ralph Newton; Petrov, Viacheslave Alexandrovich; Rao, Velliyur Nott Mallikarjuna; Sievert, Allen Capron

PATENT ASSIGNEE(S): E. I. Du Pont de Nemours & Co., USA

SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9705089	A1	19970213	WO 1996-US12547	19960731
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG				
BR 9609924	A	19990608	BR 1996-9924	19960130
CA 2228287	AA	19970213	CA 1996-2228287	19960731
AU 9666436	A1	19970226	AU 1996-66436	19960731
CN 1196716	A	19981021	CN 1996-197055	19960731
CN 1082039	B	20020403		
EP 876314	A1	19981111	EP 1996-926206	19960731
EP 876314	B1	20030226		
R: DE, ES, FR, GB, IT, NL				
ES 2190474	T3	20030801	ES 1996-926206	19960731
TW 421643	B	20010211	TW 1996-85110736	19960903
US 6291730	B1	20010918	US 1998-11401	19980128
US 6755942	B1	20040629	US 2000-638549	20000814
US 2003208090	A1	20031106	US 2003-460270	20030612
US 6858762	B2	20050222		
US 2005080302	A1	20050414	US 2004-956672	20041001
PRIORITY APPLN. INFO.:				
			US 1995-1702P	P 19950801
			US 1996-14810P	P 19960404
			US 1996-19994P	P 19960618
			WO 1996-US12547	W 19960731
			US 1998-11401	A3 19980128
			US 2000-638549	A3 20000814
			US 2003-460270	A3 20030612

OTHER SOURCE(S): MARPAT 126:226762

AB A liquid phase process is disclosed for producing halogenated alkane adducts CAR1R2CBR3R4 (A = hydrocarbyl; B = halo other than F; R1-4 = H, Br, Cl, F, alkyl, CN, COMe, CHCl, aryl) by contacting a corresponding halogenated alkane, AB, with a corresponding olefin, CR1R2:CR3R4, in a dinitrile or cyclic carbonate ester solvent which divides the reaction mixture into 2 liquid phases and in the presence of a catalyst system containing (i) ≥ 1 catalyst selected from monovalent and divalent Cu, and (ii) a promoter selected from aromatic or aliphatic heterocyclic compds. which contain 1 C-N double bond in the heterocyclic ring. When hydrochlorofluorocarbons are formed, the Cl content may be reduced by reacting the hydrochlorofluorocarbons with HF. New halogenated alkane compds. include CF3CF2CCl2CH2CCl3, CF3CCl2CH2CH2Cl and CF3CCl2CH2CHClF and these compds. are useful as intermediates for producing hydrofluorocarbons. Azeotropes of CClF2CH2CF3 with HF and azeotropes of CF3CH2CHF2 with HF and

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a processes for producing such azeotropes is described. A process for purification of certain **hydrofluorocarbons** and/or their chloroprecursors from mixts. of such compds. with HF is described. Thus CCl addition reaction with vinylidene chloride at 117-120°/508 kPa maximum for 0.9 h in the presence of CuCl₂ and 2-ethyl-oxazoline and adiponitrile solvent gave mostly 1,1,1,3,3,3-hexachloropropane.

- IC ICM C07C017-278
ICS C07C017-275; C07C019-08; C07C019-10; C07C017-383; C07C017-20
- CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
Section cross-reference(s): 23
- ST vinylidene chloride reaction carbon tetrachloride; hexachloropropane manuf haloalkane addn dinitrile solvent; carbonate ester solvent haloalkane addn olefin; ethyloxazoline copper addn catalyst haloalkane olefin
- IT Hydrocarbons, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(fluoro; production of halogenated alkane by reaction of haloalkane with halogenated olefin in select solvent, selected hydrochlorofluorocarbon compds. and azeotropes with HF)
- IT Hydrocarbons, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(halo; production of halogenated alkane by reaction of haloalkane with halogenated olefin in select solvent, selected hydrochlorofluorocarbon compds. and azeotropes with HF)
- IT Azeotropes
Solvents
(production of halogenated alkane by reaction of haloalkane with halogenated olefin in select solvent, selected hydrochlorofluorocarbon compds. and azeotropes with HF)
- IT 460-73-1P, 1,1,1,3,3-Pentafluoropropane
RL: IMF (Industrial manufacture); PREP (Preparation)
(hydrofluorination of pentachloropropane; production of halogenated alkane by reaction of haloalkane with halogenated olefin in select solvent, selected hydrochlorofluorocarbon compds. and azeotropes with HF)
- IT 142-71-2, Copper II acetate 7447-39-4, Copper chloride (CuCl₂), uses 7681-65-4, Copper I iodide 7758-89-6, Copper chloride (CuCl) 7758-98-7, Copper II sulfate, uses 7787-70-4, Copper I bromide 7789-45-9, Copper II bromide 10431-98-8
RL: CAT (Catalyst use); USES (Uses)
(production of halogenated alkane by reaction of haloalkane with halogenated olefin in select solvent, selected hydrochlorofluorocarbon compds. and azeotropes with HF)
- IT 755-46-4P 1070-78-6P, 1,1,1,3-Tetrachloropropane 5406-70-2P, 1,1,1,2,3,3-Hexachloropropane 21260-43-5P 23153-22-2P, 1,1,1,3-Tetrachloro-3-fluoropropane 79942-56-6P, 1,1,1,3,3-Pentachloro-4,4,4-trifluorobutane 175401-04-4P 188253-28-3P 188253-29-4P
RL: IMF (Industrial manufacture); PREP (Preparation)
(production of halogenated alkane by reaction of haloalkane with halogenated olefin in select solvent, selected hydrochlorofluorocarbon compds. and azeotropes with HF)
- IT 3607-78-1P, 1,1,1,3,3,3-Hexachloropropane 23153-23-3P, 1,1,1,3,3-Pentachloropropane
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(production of halogenated alkane by reaction of haloalkane with halogenated olefin in select solvent, selected hydrochlorofluorocarbon compds. and azeotropes with HF)
- IT 460-92-4 690-39-1, 1,1,1,3,3,3-Hexafluoropropane
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(production of halogenated alkane by reaction of haloalkane with halogenated olefin in select solvent, selected hydrochlorofluorocarbon

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compds. and azeotropes with HF)

IT 56-23-5, reactions 74-85-1, Ethene, reactions 75-01-4, reactions 75-02-5, Vinyl fluoride 75-35-4, Vinylidene chloride, reactions 75-38-7 156-60-5, trans-1,2-Dichloroethylene 354-58-5, 1,1,1-Trichlorotrifluoroethane 754-34-7, 1-Iodoheptafluoropropane 4259-43-2, 1,1,1-Trichloropentafluoropropane

RL: RCT (Reactant); RACT (Reactant or reagent)

(production of halogenated alkane by reaction of haloalkane with halogenated olefin in select solvent, selected hydrochlorofluorocarbon compds. and azeotropes with HF)

IT 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 109-77-3, Malononitrile 110-61-2, Succinonitrile 111-69-3, Adiponitrile 544-13-8, Glutaronitrile 629-40-3, Suberonitrile 646-20-8, Pimelonitrile 4389-22-4 4437-85-8, Butylene carbonate 17611-82-4, Ethyl succinonitrile 28906-50-5, Methyl glutaronitrile

RL: NUU (Other use, unclassified); USES (Uses)

(solvent; production of halogenated alkane by reaction of haloalkane with halogenated olefin in select solvent, selected hydrochlorofluorocarbon compds. and azeotropes with HF)

L13 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1995:347123 HCAPLUS

DOCUMENT NUMBER: 122:132561

TITLE: Process for the manufacture of linear **hydrofluorocarbons** containing end group hydrogen substituents, and azeotropes thereof

INVENTOR(S): Nappa, Mario Joseph; Rao, Velliyur Nott Mallikarjuna; Sievert, Allen Capron

PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co., USA

SOURCE: PCT Int. Appl., 17 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9427939	A1	19941208	WO 1994-US5489	19940520
W: AU, BB, BG, BR, BY, CA, CN, CZ, FI, GE, HU, JP, KG, KP, KR, KZ, LK, LV, MD, MG, MN, MW, NO, NZ, PL, RO, RU, SD, SI, SK, TJ, TT, UA, UZ, VN				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5274190	A	19931228	US 1993-66448	19930524
US 5409625	A	19950425	US 1993-140804	19931021
AU 9469514	A1	19941220	AU 1994-69514	19940520
EP 700371	A1	19960313	EP 1994-918010	19940520
EP 700371	B1	19981014		

R: DE, FR, GB, IT, NL

PRIORITY APPLN. INFO.: US 1993-66448 A 19930524
US 1993-140804 A 19931021
WO 1994-US5489 W 19940520

OTHER SOURCE(S): CASREACT 122:132561; MARPAT 122:132561

AB Linear **hydrofluorocarbons** XCF₂(CF₂)_nCH₂F [X = H or F, n = 1-7 when X = H and 0-7 when X = F] are produced by vapor-phase catalytic reaction of HF with corresponding chloroformates and chlorosulfates XCF₂(CR₂)_nCH₂OY [Y = COCl or SO₂Cl]. Azeotropic compns. with HF are provided, e.g., an azeotrope of CHF₂CF₂CH₂F (HFC-245ca; I) with HF. A portion of the linear **hydrofluorocarbon** product (e.g., I) may be

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recovered as an azeotropic composition and recycled. For example, a γ -alumina catalyst was activated by heating with HF at 175-400°, and was then fed at 250° HCF₂CF₂CH₂OCOC₂H₅, HF, and N₂, to give an effluent containing 96.6-98.7% I over a 24 h period. A similar reaction of HCF₂CF₂CH₂OSO₂Cl at 275° gave 65% conversion, with 65% selectivity for I and 28% selectivity for the fluorosulfate HCF₂CF₂CH₂OSO₂F, which is recyclable for production of I. Vapor-liquid

equilibrium

data for the I-HF azeotrope are provided. Preps. of the starting materials are also claimed.

IC ICM C07C017-22

ICS C07C019-08

CC 23-3 (Aliphatic Compounds)

ST linear **hydrofluorocarbon** manuf azeotrope hydrogen fluoride; HFC-245ca manuf azeotrope hydrogen fluoride; fluoroalkyl chloroformate chlorosulfate reaction hydrogen fluoride

IT Fluorination

Fluorination catalysts

(preparation and reaction of fluoroalkyl chloroformates and chlorosulfates with hydrogen fluoride using alumina and aluminum fluoride catalysts)

IT Hydrocarbons, preparation

RL: IMF (Industrial manufacture); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(fluoro, manufacture of linear **hydrofluorocarbons** with terminal hydrogen)

IT 160853-46-3P, HFC-245ca-hydrogen fluoride mixture

RL: IMF (Industrial manufacture); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(azeotrope; manufacture of linear **hydrofluorocarbons** with terminal hydrogen)

IT 17341-93-4, 2,2,2-Trichloroethyl chloroformate

RL: RCT (Reactant); RACT (Reactant or reagent)

(comparison reaction; preparation and reaction of fluoroalkyl chloroformates and chlorosulfates with hydrogen fluoride using alumina and aluminum fluoride catalysts)

IT 75-88-7P, 2-Chloro-1,1,1-trifluoroethane 811-97-2P, 1,1,1,2-

Tetrafluoroethane

RL: PNU (Preparation, unclassified); PREP (Preparation)

(failed reaction product; manufacture of linear **hydrofluorocarbons** with terminal hydrogen)

IT 679-86-7P, HFC-245ca

RL: IMF (Industrial manufacture); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(manufacture of linear **hydrofluorocarbons** with terminal hydrogen)

IT 86911-72-0P, 2,2,3,3-Tetrafluoropropyl fluorosulfate

RL: BYP (Byproduct); PREP (Preparation)

(preparation and reaction of fluoroalkyl chloroformates and chlorosulfates with hydrogen fluoride using alumina and aluminum fluoride catalysts)

IT 1344-28-1D, Alumina, fluorided 7784-18-1, Aluminum fluoride

RL: CAT (Catalyst use); USES (Uses)

(preparation and reaction of fluoroalkyl chloroformates and chlorosulfates with hydrogen fluoride using alumina and aluminum fluoride catalysts)

IT 76-37-9P 674-44-2P, 2,2,3,3-Tetrafluoropropyl chlorosulfate

54777-38-7P, 2,2,3,3-Tetrafluoropropyl chloroformate

RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and reaction of fluoroalkyl chloroformates and chlorosulfates with hydrogen fluoride using alumina and aluminum fluoride catalysts)

IT 67-56-1, Methanol, reactions 75-44-5, Phosgene 116-14-3, Tetrafluoroethylene, reactions 7664-39-3, Hydrogen fluoride, reactions

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7791-25-5, Sulfuryl chloride

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation and reaction of fluoroalkyl chloroformates and chlorosulfates with hydrogen fluoride using alumina and aluminum fluoride catalysts)

IT 79-01-6P, Trichloroethylene, preparation

RL: PNU (Preparation, unclassified); PREP (Preparation)

(undesired product; preparation and reaction of fluoroalkyl chloroformates and chlorosulfates with hydrogen fluoride using alumina and aluminum fluoride catalysts)

IT 1344-28-1, γ -Alumina, uses

RL: CAT (Catalyst use); USES (Uses)

(γ -phase; preparation and reaction of fluoroalkyl chloroformates and chlorosulfates with hydrogen fluoride using alumina and aluminum fluoride catalysts)

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